

# QUALITY REQUIREMENTS FOR CONTRACTORS

## Specification

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0	18/01/2017	Issued For Use	Ash Blackburn (Senior Quality Advisor)	Paola Webb (Quality & HSEQ Management Systems Manager)	Craig Haymes (Director HSE & Quality)

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## 1 INTRODUCTION

### 1.1 Purpose

This document defines Company's minimum Quality requirements for scope of works performed by Contractor and where applicable its Subcontractor(s).

### 1.2 Scope

This document applies to all scope of works performed by Contractor and where applicable its Subcontractor(s).

### 1.3 Definitions

Term	Definition of Term
Company	INPEX, its affiliates and their respective directors, officers, agents and personnel.
Contractor	Entity responsible for the agreed goods and/or services to be supplied to Company in accordance with the contract, and includes, EPC contractor, trade contractor, consultant and a supplier.
Scope of Works	The agreed goods and/or services to be supplied to Company in accordance with the contract.
Shall	Indicates a mandatory requirement.
Should	Indicates a recommended requirement.
Subcontractor	Any company or person to whom the Contractor has subcontracted directly or indirectly at any level the performance of any part of the Works, and includes a trade contractor, consultant, a supplier, and a subcontractor of a subcontractor.

Third Party/Certifying Authority Certificate	An independent statement confirming compliance with the requirements of defined codes/standards specified for an item of equipment. Typically, the requirement for this level of certification is defined within the applicable contract or purchase order and/or within the applicable codes or standards. The extent of third party scope typically includes verification of design, manufacture/fabrication and testing against the requirements of the specified codes/standards. The third party/certifying authority shall be an industry recognised organisation with competence commensurate with the equipment being certified.
Class Certificate of materials and Components (CMC)	An independent statement by the assigned Classification Society that the design, manufacture/fabrication and testing of a material or component meets the requirements of the applicable Classification Rules/Standards. The requirement for this level of certification, and the materials and components, for which it must be provided, is defined within the applicable Classification Rules/Standards.
Independent Verification Body Certificate (IVB - VMC)	An independent statement confirming that the design, manufacture/fabrication and testing of an item of safety critical equipment is in compliance with the requirements specified in the applicable Company performance standard(s). The requirement for this level of certification, and equipment or assemblies, for which it must be provided, is defined within the applicable Company Written Verification Scheme and associated Performance Standards.

## 1.4 Abbreviations

Term	Definition of Term
AICIP	Australian Institute for the Certification of Inspection Personnel
ANZEx	Australian Program for the Certification of Equipment for Explosive Atmospheres
ASNT	American Society for Nondestructive Testing
CA	Certifying Authority
CRA	Corrosion Resistant Alloy
CSWIP	Certification Scheme for Welding and Inspection Personnel
DDR	Document Deliverables Register
FAT	Factory Acceptance Testing
HSE	Health, Safety and Environment
ICAPS	Integrated Commissioning and Progress System
IECEX	International Electrotechnical Commission System for Certification to Standards Relating to Equipment for use in Explosive Atmospheres.
IIW	International Institute of Welding
IRC	Inspection Release Certificate
IRN	Inspection Release Note
ITP	Inspection and Test Plan
IVB	Independent Verification Body
KPIs	Key Performance Indicators
MDR	Manufacturers Data Report
NACE	National Association of Corrosion Engineers
NATA	National Association of Testing Authorities
NCR	Non-conformance Report
NDT	Non-destructive Testing
NOI	Notice of Inspection
PCN	Personnel Certification in Non-destructive Testing
PIM	Pre-Inspection Meeting
PQR	Procedure Qualification Record
PWHT	Post Weld Heat Treatment
QA	Quality Assurance
QC	Quality Control
QMP	Quality Management Plan
QMS	Quality Management System
RWC	Responsible Welding Coordinator
SBT	Small Bore Tubing (tube & fittings)
SIT	System Integrated Testing
TDS	Target Document Status
VEM	Vendor Equipment Manuals
WPS	Welding Procedure Specification

## 1.5 References

Reference	Title
AS 3920	Pressure Equipment – Conformity Assessment
AS 3998	Non-destructive Testing – Qualification and Certification of Personnel
AS 4343	Pressure Equipment – Hazard Levels
AS 4761.1	Competencies for working with electrical equipment for hazardous areas (EEHA) – Competency Standards
ASNT SNT-TC-1A	Recommended Practise For Personnel Qualification and Certification in Non-Destructive Testing
BS EN 10204	Metallic Products: Types of Inspection Documents
C035-AG-SPC-0002	Preparation of Manufactures Data Report and Supplier Equipment Manuals
C065-AG-SPC-0001	Technical Change / Deviation Management Requirements
C075-AQ-SPC-0005	Criticality Assessment for Procured Equipment and Materials
C075-AQ-SPC-0006	Positive Material Identification For Project Equipment and Materials Specification
0000-A9-SPC-60014	External Contractor – Third Party Controlled Document Specification
0000-AQ-FRM-60001	Notice of Inspection
0000-AQ-FRM-60006	Inspection Release Certificate
0000-AQ-FRM-60009	Inspection Punchlist
0000-AG-SPC-60001	Packing, Marking and Documentation – External Specification
0000-AG-SPC-60002	Lifting Engineering Specification
0000-AG-STD-60006	Lifting Standard
ISO 10005	Quality Management Systems – Guidelines for Quality Plans
ISO 14731	Welding Coordination – Tasks and Responsibilities
ISO / TS 29001	Petroleum, petrochemical and natural gas industries – Sector-specific quality management systems - Requirements for product and service supply organisations
ISO 3834-2	Quality requirements for fusion welding of metallic materials – Part 2: Comprehensive quality requirements
ISO 9001	Quality Management Systems
ISO 9712	Non-destructive testing – Qualification and Certification of NDT Personnel
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories
X060-AM-SPC-60002	Flange Management Specification

## **2 QUALITY MANAGEMENT**

Contractor shall be responsible for all aspects of Quality Management for Contractors scope of works.

### **2.1 Quality Planning**

Contractor shall undertake a comprehensive review of all Company requirements for Contractors scope of works. Contractor shall undertake a suitable amount of planning to ensure all Company requirements have been comprehended and effective processes and procedures are implemented to ensure Contractors scope of works meets Company requirements.

When specified by the Purchase Order and/or Contract documents, the Contractor shall document this process by a Quality Management Plan (QMP) and submit to Company for review and approval.

### **2.2 Quality Management System (QMS)**

All Contractors and Subcontractors are required to maintain an independently certified Quality Management system in accordance with the latest edition ISO 9001 covering the design, procurement, manufacture, installation and after sales support as appropriate for Contractors scope of works. Alternative Quality Management systems may be considered, however it is Contractors responsibility to demonstrate equivalence to the latest addition of ISO 9001.

When specified by the Purchase Order and/or Contract documents, the additional elements of ISO / TS 29001 shall also be included in Contractor QMS as appropriate for Contractors scope of works.

### **2.3 Quality Policy**

Contractor shall establish and maintain a Quality policy consistent with Contractors Quality goals and commitments. Contractors Quality policy shall be endorsed by senior management and reviewed on a periodical basis to ensure relevance and adequacy. The Quality policy shall be made available to all personnel.

### **2.4 Quality Key Performance Indicators (KPIs)**

Contractor shall develop a suitable Quality KPI framework in order to assess the overall Quality performance and effectiveness of Contractors Quality Management system, processes and procedures relevant to Contractors scope of works.

Contractor may use an existing Quality KPI framework provided Company approval is obtained. Details relating to Contractor KPI objectives and the measuring and evaluation process(s) shall be included in Contractors Quality Management Plan (QMP).

### **2.5 Quality Action Tracking**

Contractor shall operate and maintain a system to record and manage action items pertaining to quality. These shall include Company and/or Contractor raised issues, queries and/or opportunities for improvement which reside outside the formal non-conformance and/or or audit processes. Company and Contractor shall perform periodical review(s) of the status of outstanding quality actions to ensure timely and effective close out.

The timing and frequency of the review(s) shall be in line with the complexity and criticality of Contractors scope of works.

Details of Contractors action tracking system shall be included in Contractors QMP.

## **2.6 Lessons Learned**

Contractor shall operate and maintain a system in order to capture lessons learned throughout the duration of Contractors scope of works.

Contractor shall identify previous lessons learned relevant to Contractors scope of works to Company. Previous lessons learned shall be applied by Contractor during planning of the works.

Contractor and where applicable Subcontractor(s) shall participate in lessons learned workshop(s) as required by Company.

Details of Contractors lessons learned system shall be included in Contractors QMP.

## **2.7 Quality Personnel**

Contractor shall ensure that their quality organisation is suitably resourced with personnel who possess the appropriate level of experience, qualifications and competency applicable to Contractors scope of works.

Contractor Quality personnel shall have demonstrable independence from production and cost pressure.

When specified by the Purchase Order and/or Contract documents Contractor shall submit key personnel CVs for Company review and approval. This may include but not limited to Quality Manager(s), Quality Lead(s) and Lead Discipline Inspector(s).

## **3 QUALITY ASSURANCE (QA)**

Contractor shall be responsible for all aspects of Quality Assurance for Contractors scope of works.

### **3.1 Quality Management Plan (QMP)**

When specified by the Purchase Order and/or Contract documents Contractor shall develop and submit a QMP in accordance with ISO 10005 which outlines how the elements of ISO 9001 (and where applicable ISO / TS 29001) will be managed for Contractors scope of works. The QMP shall include, but not limited to the following elements:

- Contractors Quality objectives / KPIs;
- Contractors organisational structure (inclusive of direct & functional reporting lines);
- Organisational roles, responsibilities and authorities;
- Organisational competency programme and training requirements;
- Contractors processes and procedures applicable to the scope of works;
- Contractors Document and Information Management;
- Contractors Audit strategy and schedule;
- Contractor Action Tracking / Management;
- Contractor Lessons Learned;

- Contractor Management of Change;
- Contractors Quality reporting agenda and schedule;
- Subcontractor and procurement management.

### **3.2 Codes, Standards, Specifications and Regulations**

Contractor shall comply with all applicable Code(s), Standard(s) and/or Specification(s) referenced by the Purchase Order and/or Contract documents. Any technical change from the applicable Code(s), Standard(s) and/or Specification(s) shall be governed by the formal management of change process in accordance with Section 3.5.

Contractor shall comply with all State, National and/or Commonwealth legislation and/or regulations applicable to Contractors scope of works.

Contractor shall notify Company of any inconsistencies and/or discrepancies between the referenced Code(s), Standard(s) and/or Specification(s) as well as their respective revisions.

Company shall advise Contractor the suitable course of action.

### **3.3 Engineering Quality**

Contractor shall be responsible for all aspects of engineering quality for Contractors scope of works.

#### **3.3.1 Equipment Criticality Assessments**

When specified by the Purchase Order and/or Contract documents Contractor shall undertake an Equipment Criticality Assessment. Assessments shall be completed in accordance with Company Specification C075-AQ-SPC-0005. Completed assessments shall be transmitted to Company for review and approval.

#### **3.3.2 Independent Verification**

Company operates an assurance process that requires independent verification of the suitability of safety, environmental and business critical equipment and/or systems. Where specified in the Purchase Order and/or Contract documents, Contractor shall engage the services of a Company approved Independent Verification Body (IVB) to verify compliance with Company defined Performance Standards. Contractor shall ensure that such engagement allows for full reporting of verification progress and status to Company. Alternatively, Company may engage the services of the IVB directly and, in such cases, Contractor shall provide the IVB appropriate access to engineering deliverables and/or manufacturing and testing activities as necessary to complete the independent verification scope.

#### **3.3.3 Design Control and Assurance**

When specified by the Purchase Order and/or Contract documents Contractor shall develop and submit for Company approval, design control and assurance processes to be implemented throughout the Contractors scope of works. Where applicable, Contractor shall include details of these processes in the QMP in accordance with Section 3.1.

Contractor shall determine and communicate to the Company, the method of design verification required for each design output based on the potential

consequences of failure as per specified equipment criticality assessment(s) in accordance with Section 3.3.1

Contractor shall document design verification outcomes and include in Manufacturers Data Report(s) in accordance with Section 5.2.

Design Changes resulting as a consequence of execution of verification activities shall be managed in accordance with Section 3.5.

### **3.4 Management of Non-conformance**

Contractor shall operate and maintain a system in order to detect and manage product and/or system non-conformance(s) as well as the associated corrective and preventive action(s) at all stages of the Purchase Order and/or Contract.

All product and/or system non-conformance(s) shall be captured on a Non-Conformance Report (NCR). The NCR shall include details of the non-conformance as well as the proposed corrective and preventive actions. Proposed corrective and/or preventive action(s) that are not governed by existing Company approved processes and/or procedures shall be submitted for review and approval by Company prior to the commencement of their implementation.

Contractor shall ensure that all corrective and/or preventive actions are implemented within a period agreed with Company in order to ensure Company is not negatively impacted. Corrective and/or preventive actions that cannot implement within the agreed period shall be communicated to Company via formal correspondence stating the reason(s).

Contractor shall ensure all deviations to Company specifications referenced in the applicable Purchase Order and/or Contract documents as a result of a non-conformance, are raised and managed in accordance with Section 3.5.

Completed NCR(s) shall be submitted to Company for review and approval. Supporting evidence that all prescribed corrective and/or preventive actions shall accompany the completed NCR(s) submission. Company may elect to physically verify the prescribed corrective and/or preventive actions have been implemented and are effective.

Contractor's scope of works as defined in the Purchase Order and/or Contract shall not be considered complete until all applicable NCRs have been closed and approved by Company.

### **3.5 Management of Change**

Deviations to Company specifications referenced in the applicable Purchase Order and/or Contract documents shall be managed in accordance with Company Specification C065-AG-SPC-0001.

Organisational and/or non-technical change management processes shall be outlined in the QMP in accordance with Section 3.1.

Company Specification C065-AG-SPC-0001 shall not be used as a means for amending commercial arrangements. This shall be directed through the appropriate process as defined in the applicable Purchase Order and/or Contract documents.

### **3.6 Auditing**

When specified by the Purchase Order and/or Contract documents Contractor shall submit a proposed audit schedule for Company review and approval. The

audit schedule shall detail Contractors proposed internal and Subcontractor audits relative to Contractors scope of works.

The frequency and comprehensiveness of Contractors proposed audit schedule (both internal and Subcontractor) shall be consistent with the criticality and complexity of Contractors scope of works.

Contractor performed audits shall be led by a suitably experienced and qualified Lead Auditor. Contractors audit schedule shall state the name and position of each proposed Lead Auditor against the audit in question. Company reserves the right to accept and/or reject Contractors proposed audit personnel.

Company may choose to attend Contractor led audits either internal or external as an observer or participating party. Company shall nominate this requirement on Contractors proposed audit schedule where possible. Company audit team may include 3rd party representatives such as the nominated IVB and/or other regulatory authority.

Notification of audit(s) shall be in accordance with Section 4.4. Contractor shall provide Company Four (4) weeks' notice of upcoming audit(s).

Company may choose to perform integrated, process and/or other audit(s) on Contractor and/or Subcontractor. Company shall nominate its intended audit(s) on Contractors proposed audit schedule.

Company reserves the right to increase its ongoing audit activities irrespective of previous agreements should it be deemed necessary by Company.

### **3.7 Subcontractor(s)**

Contractor shall operate and maintain a system in order to manage the selection of Subcontractor(s) for Contractors scope of works. Contractor shall ensure that a robust pre-qualification process is implemented for Subcontractor selection to ensure only capable and suitably experienced Subcontractors are engaged. Contractor shall ensure all pre-qualification assessment(s) undertaken by Contractor include all relevant disciplines; inclusive of Engineering, Quality, HSE and any other relevant discipline to Contractors scope of works.

When specified in the Purchase Order and/or Contract documents Contractor shall submit an approved Subcontractor(s) list, inclusive of Contractors pre-qualification process for Company review and approval.

Should Contractor engage multiple Subcontractors to complete single assemblies within Contractors scope of works, Contractor shall maintain full traceability in accordance with Section 4.7 for individual Subcontractor scope of works.

Contractor shall remain responsible at all times for ensuring all Subcontractor works are in full compliance with the applicable Code(s), Standard(s) and/or Specification(s) in accordance with Section 3.2.

Contractor shall undertake a suitable level of quality surveillance at Subcontractors premises consistent with the complexity and criticality of Subcontractors scope of works. Contractor shall demonstrate a systematic way of assessing the criticality and subsequent level of Contractor surveillance of Subcontractors works. When specified in the Purchase Order and/or Contract documents Contractor shall submit details of Subcontractor criticality assessment(s) and subsequent planned Contractor surveillance to Company for review and approval.

Subcontractor generated document deliverables shall be submitted for review and approval to Contractor prior to submission to Company. Contractor shall

ensure any applicable Contractor generated comments have been suitably addressed by Subcontractor prior to submission to Company.

Contractors QMP shall include specific details of Subcontractor management in relation to Contractors scope of works in accordance with Section 3.1.

## **4 QUALITY CONTROL**

Contractor shall be responsible for all aspects of Quality Control for Contractors scope of works.

### **4.1 Company Access and Surveillance Requirements**

Company personnel and/or its representatives shall be afforded access to Contractor and/or Subcontractor facilities, records and personnel in order for Company to conduct its specified verification activities. Access request and notification protocols shall be agreed between Company, Contractor and/or Subcontractor.

Company reserves the right to increase its ongoing surveillance activities irrespective of previous agreements should it be deemed necessary by Company.

### **4.2 Pre-Inspection Meetings (PIM)**

Pre-Inspection Meeting(s) shall be conducted by Contractor to allow the appropriate Company, Contractor and/or Subcontractor inspection personnel to meet and collaborate in the forward planning of the ITP activities. Formal minutes of meeting shall be captured and distributed for all PIMs; all resulting actions shall be captured and tracked as per Section 2.5.

#### **4.2.1 PIM Planning**

Where applicable, PIMs shall be included as an activity in the Contractor and/or Subcontractor ITP; this shall be nominated as a Hold Point (H) for all parties. Notification of PIM activities shall be in accordance with Section 4.4. Applicable ITP(s) shall be made available for review prior to commencement of the PIM. The PIM shall be conducted prior to the commencement of production. Suitable planning / scheduling of the PIM shall be conducted as not to negatively impact the commencement of production.

#### **4.2.2 PIM Attendees**

PIMs shall be attended by all nominated parties referenced on the applicable ITP, inclusive of any 3rd party resources such as consultants and/or IVB / Class society representatives.

#### **4.2.3 PIM Agenda**

The PIM agenda will depend largely on the complexity and criticality of Contractors scope of works.

A typical PIM agenda may include, but not limited to the below:

- HSE requirements applicable to workshop, site and/or office visitors;
- Access and communication protocols;
- Overview of scope of works;
- Discuss and understand roles and responsibilities;
- Review the applicable specification(s);

- Discuss and review the applicable IVB scope;
- Review of the current ITP status as well as discussion around the nominated Witness and Hold points;
- Review of the current ITP referenced documents and acceptance criteria for revision and approval status;
- Non-Conformance and Quarantine requirements;
- Equipment handover requirements;
- Discuss and schedule periodical manufacturing documentation review(s).

### 4.3 Inspection and Test Plan (ITP)

ITPs shall be generated for each major component and/or discipline within Contractors scope of works inclusive of any Subcontractor works. For complex scopes where numerous ITPs are required, Contractor shall generate an ITP matrix in order to track the progress of all inspection and testing activities. All referenced verification document template(s) shall be available for review by Company at the time of ITP submission.

All ITPs shall be submitted for Company review and approval prior to commencement of production. Company shall nominate its intended verification activities upon the initial document submission. Where applicable, nomination of IVB verification activities shall also be completed during the initial document submission.

Contractor nominated ITP verification activities shall be fully adhered to by Contractor unless formal notification stating the reason(s) why is provided to and approved by Company.

#### 4.3.1 ITP Structure

ITP structure and format shall be as per Contractors standard format provided it contains the minimum information listed below:

**Header:** The ITP header shall include, but not be limited to document number, project title, purchase order / contract number, works description, subcontract details, date and revision.

**Activity:** All activities requiring inspection and/or test activities shall be listed in chronological order.

**Procedure Reference:** Reference shall be made to the governing procedure / work instruction(s) for individual inspection and/or test activities.

**Acceptance Criteria:** Reference shall be made to applicable Code(s), Standard(s) and/or Specification(s) acceptance criteria for individual inspection and/or test activities.

**Verifying Documents / Records:** Reference shall be made to the documents used as evidence to verify inspection / test compliance.

**Verification Activities:** Each respective party shall have a nominated column in the ITP to allow each party to nominate its intended verification activities.

#### 4.3.2 ITP Definitions

The following ITP definitions apply:

**Hold Point (H):** indicates a point in the production sequence where no further processing or manufacturing shall take place until attendance has been carried out by all parties nominated for that specific activity.

**Witness Point (W):** indicates that the nominated party shall be invited to inspect an activity, but production need not stop due to non-attendance.

**Monitor Point (M):** indicates that the nominated party shall randomly inspect or verify the activity on a periodical basis, commensurate with the perceived level of criticality or risk to the overall integrity of the works scope. The periodicity and thoroughness of inspections may require agreement between all nominated parties.

**Review Point (R):** indicates a review and/or sign off of the referenced records / documents by the nominated party for a specific ITP activity.

Additional activity points may be nominated provided they are agreed between Company and Contractor prior to submission of the ITP.

#### 4.3.3 ITP Sign Off

ITP line items and where applicable verifying documents and/or records shall be progressively signed off by the nominated parties; agreement on the specific arrangements to manage this shall be agreed at the PIM.

ITP sign off (by all nominated parties) shall act as evidence of Hold Point (H) and/or Witness Point (W) attendance by the nominated parties and allow processing and/or manufacturing to continue.

#### 4.4 Notice of Inspection (NOI)

Notification of all upcoming Company Witness and Hold point activities as indicated on the applicable ITP shall be communicated to Company via formal Notice of Inspection (NOI). The NOI format shall be as per Company Form 0000-AQ-FRM-60001, an alternative format may be proposed by Contractor provided it's agreed with Company that it meets the minimum requirements relative to Contractors scope of works.

The notification period for Company Hold Points (H) shall be Ten (10) working days; the notification period for Company Witness Points (W) shall be Five (5) working days. Hold Points (H) and/or Witness Points (W) relating to the IVB and/or Class society shall require Fifteen (15) working days' notice.

#### 4.5 Certification

Contractor shall supply all certification as required by all applicable Legislation, Standard(s), Code(s), Specification(s) and/or Company Datasheets to Company. This shall include but not limited to all specified 3rd party certification, class approval certification and/or IVB certification.

##### 4.5.1 Material Certification

All material supplied as a part of Contractors scope of works shall be accompanied with material certification in accordance with BS EN 10204. The minimum level of certification required shall be as per the requirements specified in the Purchase Order and/or Contract documents. Alternatively, when not specified in the Purchase Order and/or Contract documents the minimum level of certification required shall be as per Appendix A.

All materials shall be and remain fully traceable to the applicable certification at all times.

#### **4.5.2 Electrical Certification**

All electrical apparatus supplied as a part of Contractors scope of works shall be accompanied with the appropriate certification for use in hazardous areas such as those governed by the IECEx or ANZEx schemes. The specific certification type required per component shall be detailed in the Purchase Order and/or Contract documents.

#### **4.5.3 Pressure Equipment Certification**

In addition to the applicable Code certification requirements, Contractor shall ensure that all pressure equipment (as defined in AS 4343) receives independent design verification and/or fabrication inspection by a Certifying Authority (CA) in accordance with AS 3920. Contractor shall ensure all applicable design registration activities have been undertaken with the relevant state and/or national legislative authority. Contractor shall assist Company with individual registration where applicable.

#### **4.6 Lifting Points and Appliances**

All lifting equipment, fixtures and/or pad eyes supplied to Company shall be in accordance with Company Specification 0000-AG-SPC-60002.

#### **4.7 Traceability**

Contractor shall operate and maintain a traceability system for all traceable aspects of Contractors scope of works, including but not limited to material, welding, testing and processing. Contractor shall ensure as a minimum individual component material(s) are traceable by heat and batch number(s). Pressure containing and primary structural welds shall be traceable by Welder ID, WPS, consumable batch and applicable NDT report(s).

Specific requirements pertaining to the required level of traceability for Contractors scope of works shall be as per the Purchase Order and/or Contract referenced Standard(s), Code(s), Specification(s) and/or Company Datasheets.

#### **4.8 Positive Material Identification (PMI)**

When specified by the Purchase Order and/or Contract documents Contractor shall develop and submit for Company approval suitable PMI procedure(s) in order to demonstrate all procured corrosion resistant alloy(s) (CRA) conform to the specified grade

PMI shall be conducted in accordance with Company Specification C075-AQ-SPC-0006.

#### **4.9 Inspection Release Certificate (IRC)**

All works released from Contractor to Company shall be done via an IRC process. Where a Company Hold (H) or Witness Point (W) is prescribed for final release activities on the applicable ITP Contractors works shall not be released from their point of manufacture or storage until Company has endorsed the relevant IRC.

The IRC format shall be as per Company Form 0000-AQ-FRM-60006, an alternative format may be proposed by Contractor provided it's agreed with Company that it meets the minimum requirements relative to Contractors scope of works.

Where Contractor engages a Subcontractor as a part of Contractors scope of works; Contractor shall oversee and endorse all Subcontractor IRC(s) prior to the release of the works from Subcontractor premises.

A colour copy of Company endorsed IRC(s) shall be attached to the transportation / dispatch documentation which will accompany the consignment. Original IRC(s) shall be included in Contractors MDR documentation in accordance with Section 5.2.

IRC(s) will not be endorsed by Company if any outstanding Category A punchlist items (see Section 4.10) affecting the applicable works exist.

#### **4.10 Punchlists**

Contractor shall operate and maintain a system in order to capture and manage punchlist items. Punchlist items shall be classified as either Category "A" or "B" dependent of their nature.

Punchlists shall be completed and available for review prior to the completion of the IRC. If one or more Category B punch item(s) exist at the stage of release, Company approval shall be sought to confirm if release of the works is acceptable. If agreed the punchlist shall accompany the IRC along with the transportation / dispatch documentation of the consignment. The IRC will be treated as "conditional" and shall make direct reference to the applicable punchlist.

If one or more Category A punch item(s) exist at the stage of release, Company shall not endorse the IRC and release shall not progress.

Company defined punchlist categories for Contractor release:

- **Category A** punchlist items are those that relate to component/system safety, integrity and/or operability. This may include but not limited to missing and/or failed testing (NDT, FAT, Lifting and/or Pressure), open or disputed NCR(s), outstanding approval of design and/or qualification deliverables.
- **Category B** punchlist items are those that do not relate to component/system safety, integrity and/or operability.

Where ambiguity exists over the correct classification of a punch item, Contractor shall seek agreement from Company.

Contractors scope of works shall not be considered complete until closure of outstanding Punchlist Items have been completed and verified by Company.

If Contractors scope of works interfaces directly with Company Commissioning and Pre-Commissioning activities, the applicable facility punch listing system (i.e. ICAPS ©) shall take precedence.

#### **4.11 Company Free Issued Equipment**

Company may issue material(s), tool(s) and/or equipment to Contractor, either for temporary or permanent use. Contractor shall operate and maintain a system in order to manage the receipt, storage, preservation and/or allocation of Company materials, tools and/or equipment. Contractor shall perform visual inspection(s) upon receipt of Company issued material(s), tool(s) and/or equipment to confirm physical conformity and quantity. Inspection(s) shall be conducted by suitably qualified and competent personnel relevant to the type of material(s), tool(s) and/or equipment. Contractor shall formally notify Company immediately of any perceived discrepancies discovered during the inspection(s). Contractor shall ensure all Company issued material(s), tool(s) and/or equipment remain traceable in accordance with Section 4.7. All applicable

documentation received by Contractor shall be included in the MDR and/or VEM as required by Section 5.2 and/or Section 5.3 respectively.

#### **4.12 Qualification of Technology**

When specified by the Purchase Order and/or Contract documents Contractor shall develop and submit for Company approval the details of the current technology readiness level of new product(s) and/or technology, the proposed qualification regime and the intended technology readiness level for new product(s) and/or technology applicable to Contractors scope of works. This shall be established in accordance with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) for Contractors scope of works.

#### **4.13 Calibration**

Contractor shall ensure all inspection, test and assembly equipment and/or tools utilised during Contractors scope of works are suitably calibrated to an appropriate National and/or International Standard. This may include, but not limited to the following types of equipment and/or tools:

- Dimensional measurement equipment (tape Measures, spirit levels, squares etc.);
- Pressure gauges;
- Pressure chart and temperature recorders;
- Electrical test equipment;
- Hydraulic torque equipment.

### **5 DOCUMENTATION REQUIREMENTS**

Contractor shall submit the required document deliverables as indicated by the Purchase Order and/or Contract documents.

#### **5.1 Document Deliverables**

All document deliverables included in Contractors scope of works shall be reviewed by a technically competent person to ensure compliance prior to submission to Company.

Contractor shall ensure all documents submitted to Company are in accordance with Company Specification 0000-A9-SPC-60014.

Contractor shall ensure all document deliverables are submitted within the specified timeframe in the Purchase Order and/or Contract documents.

Target Document Status (TDS) shall be reported to Company on a periodical basis (to be approved by Company) via a Document Deliverables Register (DDR). The minimum content of Contractors submitted DDR shall be in accordance with Company Specification 0000-A9-SPC-60014.

Contractor's scope of works shall not be considered complete until all document deliverables have been satisfactorily received and approved by Company in accordance with Company Specification 0000-A9-SPC-60014.

#### **5.2 Manufactures Data Report (MDR)**

MDRs shall be progressively compiled during the procurement, manufacture and/or installation phases of Contractors scope of works. Contractor and Subcontractor MDRs shall be compiled in accordance with Company specification

C035-AG-SPC-0002. A MDR index shall be submitted to Company for review and approval prior to the commencement of MDR compilation.

### **5.3 Vendor Equipment Manuals (VEM)**

When specified in the Purchase Order and/or Contract documents Contractor shall generate VEMs as per Company specification C035-AG-SPC-0002. The VEM shall be specific to Contractors scope of works and enable Company personnel safely install, operate, shut down and maintain Contractor supplied equipment / component(s).

### **5.4 Quality Records and Retention**

Contractor shall establish, implement, document and maintain record management procedures to ensure all records required to demonstrate contract conformance are:

- Written in the English language and legible;
- Readily retrievable;
- Identifiable and traceable to the activity;
- Protected against loss and/or damage;
- Retained for a defined period both during and after completion of Contractors scope of works;
- Only disposed of by a Company approved method, and not prior to the minimum defined period of retention.

Access to records shall be controlled to ensure authorised access, security of information and relevant levels of confidentiality.

Contractor shall provide Company access to records on request, for as long as the records are legally required to be maintained.

## **6 MANAGEMENT OF SPECIAL PROCESSES**

"Special Processes" are processes that have been identified to carry a high level and/or specific quality risk. As such, special precautions shall be taken by Contractor to ensure any special processes included in Contractors scope of works are suitably managed. If Contractor does not possess suitably qualified and/or experienced personnel in relation to a special process then Contractor shall engage a suitably qualified and experienced Subcontractor.

### **6.1 Manufacturing Procedure Specification (MPS)**

All MPS(s) shall be qualified in accordance with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) for Contractors scope of works. Contractor shall provide all MPS to Company for review and approval prior to the commencement of manufacturing.

### **6.2 Manufacturing Procedure Qualification (MPQ)**

Where new MPQ(s) are required to be qualified as part of Contractors scope of works they may be required to be witnessed by Company and where applicable the IVB and/or Class society. When applicable, this requirement shall be included as a Hold Point (H) in the relevant ITP.

### **6.3 Welding**

All welding activities shall be undertaken in line with ISO 3834-2 "Quality Requirements for Fusion Welding of Metallic Materials - Part 2 Comprehensive Quality Requirements".

#### **6.3.1 Welding Procedure Specification (WPS)**

All WPS(s) shall be qualified in accordance with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) for Contractors scope of works.

WPSs applicable to Contractors scope of works shall be submitted to Company for review and approval prior to the commencement of welding activities. WPSs submitted for review shall be accompanied by the appropriate Procedure Qualification Record (PQR). The PQR shall include the "as qualified" essential, supplementary and non-essential variables required by the applicable Standard(s), Code(s) and Specification(s). The PQR shall also include all applicable material and consumable certification as well as all applicable NDT, PWHT, mechanical and chemical test records.

Where new WPS(s) are required to be qualified as part of Contractors scope of works they may be required to be witnessed by Company and where applicable the IVB and/or Class society. When applicable, this requirement shall be included as a Witness Point (W) in the relevant ITP.

Where Contractor engages a Subcontractor for welding related works, Contractor shall oversee and witness the qualification of all new WPS(s).

Contractor shall operate and maintain an approved WPS register that details the approval status, extent of qualification and application of all applicable WPS(s).

Pre-qualified WPS as defined by the applicable Code and/or Standard shall only be accepted by Company on a case by case basis.

#### **6.3.2 Welder Qualifications**

Welders and/or welding operators shall be qualified in accordance with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) for Contractors scope of works.

Company reserves the right to reject proposed welders/welding operators regardless of certification level if their qualifications cannot be demonstrated to be in accordance with the requirements stated above. Company reserves the right to request additional qualification testing.

Where new welder qualifications are required to be qualified as part of Contractors scope of works they may be required to be witnessed by Company or where applicable the IVB and/or Class society. When applicable, this requirement shall be included as a Witness Point (W) in the relevant ITP.

Where Contractor engages a Subcontractor for welding related works, Contractor shall oversee and witness the qualification of all new Welder qualification(s).

Welder qualification test details shall be recorded on a "Welder Qualification Record". This record shall compose of a front sheet detailing the extent of qualification inclusive of the essential, supplementary and non-essential variables as required by the applicable Standard(s), Code(s) and Specification(s). Also included shall be the NDT and/or destructive test report(s). Once successfully qualified a permanent (ID) number shall be allocated to the individual welder/welding operator and will form part of the welder qualification register for Contractors scope of works.

### 6.3.3 Welding Coordination

All welding coordination tasks and responsibilities shall be undertaken as detailed in ISO14731. The manufacturer shall appoint a Responsible Welding Coordinator (RWC) who shall be responsible for all welding activities relevant to Contractors scope of works. The RWC shall be suitably qualified to satisfy the requirements of ISO 3834-2 or as otherwise accepted in ISO 14731.

### 6.3.4 Welding Inspection

Welding inspectors shall be familiar with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) for Contractors scope of works.

Welding inspectors shall be suitably qualified in accordance with relevant accredited certification schemes such as those offered by IIW, CSWIP or equivalent.

Welding inspection shall be performed before, during and after welding activities. All inspection outcomes shall be reported to the RWC. All inspection activities shall be detailed within Contractors ITP in accordance with Section 4.3.

Contractor shall demonstrate a systematic way of recording ongoing weld quality status. This shall detail weld repair rates for individual welders, processes and WPS's. Causes for non-conforming welds shall immediately be investigated and corrective action shall be taken to prevent further occurrence. Repeated weld non-conformance in either individual welders, processes or WPS's shall require documented investigation and action by the RWC. Company shall be advised of all weld repair trends and shall be included in the applicable investigation(s).

## 6.4 Non-Destructive Testing (NDT)

When required by the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) Contractor shall perform all required NDT. All NDT shall be compliant to the referenced Standard(s), Code(s) and Specification(s).

### 6.4.1 NDT Procedures

NDT procedure(s) applicable to Contractors scope of works shall be submitted to Company for review and approval prior to the commencement of NDT activities. All Contractor NDT procedures shall be suitably endorsed by a qualified level III in accordance with AS 3998, ISO 9712 and/or CSWIP-PCN certification schemes.

Contractor NDT procedure(s) shall be in accordance with the applicable Standard(s), Code(s) and Specification(s). As a minimum Contractor NDT procedures shall include the following as applicable:

- Personnel qualifications and certification requirements;
- Applicable codes, and specifications;
- Applicable acceptance criteria(s);
- Equipment type, calibration method and frequency;
- Techniques, including diagrams;
- Consumables;
- Test restrictions, procedure deviations;
- Record and Reporting requirements, including the prescribed formats.

#### **6.4.2 NDT Personnel**

Contractors NDT technicians shall be qualified to a minimum of level II in accordance with AS 3998, ISO 9712 and/or CSWIP-PCN certification schemes.

In house certification schemes such as ASNT SNT-TC-1A may be accepted by Company on a case by case basis upon the submission of suitable documented evidence.

Company reserves the right to reject / remove NDT technician(s) within Contractors scope of works regardless of qualification and/or certification level.

#### **6.4.3 NDT Reporting and Traceability**

All NDT reports shall be written in the English language and shall contain all the information specified in the applicable Standard(s), Code(s) and Specification(s). As a minimum Contractor NDT reports shall include the following:

- Report number, revision, date of issue and date of NDT;
- Project / Work scope;
- Facility;
- System;
- Sub-system;
- Line class;
- Equipment / Tag No;
- Isometric and or relevant IFC drawing;
- Weld number (or Item number), WPS number and Welder ID;
- Applicable NDT procedure;
- Applicable acceptance criteria;
- Applicable test sensitivity;
- Equipment & consumables used (including serial number);
- Records of discontinuities detected;
- Details of test restrictions, or deviations from NDT procedure;
- Technicians name and signature.

#### **6.5 Destructive Testing**

When required by the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) Contractor shall perform the required destructive testing.

Destructive includes mechanical, chemical and metallurgical testing of a sacrificial test specimen. Destructive testing may be required as part of WPS qualification, forging / casting qualification, heat treatment procedure qualification, material certification and consumable batch testing.

##### **6.5.1 Laboratory Accreditation**

All laboratories that perform NDT, Calibration and/or Destructive testing as a part of Contractors scope of works within Australia shall be certified by NATA. Outside of Australia, laboratories shall be suitably certified by an independent body and/or government agency to an internationally recognised scheme such as ISO/IEC 17025 or equivalent.

Contractor shall conduct periodical technical audits on laboratories performing work as a part of Contractors scope of works. Company shall be invited to attend in accordance with Section 3.6.

## **6.6 Post Weld Heat Treatment**

PWHT procedure(s) applicable to Contractors scope of works shall be submitted to Company for review and approval prior to the commencement of PWHT activities.

As a minimum Contractor PWHT procedures shall include the following as applicable:

- Type / method of heating;
- Thermocouple placement;
- Minimum number of thermocouples;
- Furnace layout diagram including burner location and positioning of materials;
- Furnace capacity;
- Temperature profile monitoring;
- Temperature recording methods (including redundancy in case of failure);
- Heating and cooling rates;
- Soak time and temperatures;
- Details of sampling method and locations for test coupons.

### **6.6.1 PWHT Reporting and Traceability**

All PWHT reports shall be written in the English language and shall contain all the information specified in the applicable Standard(s), Code(s) and Specification(s). As a minimum Contractor PWHT reports and Charts shall include the following:

- Report number, revision, date of issue and date of PWHT;
- Project / work Scope;
- Facility;
- System;
- Sub-system;
- Line class;
- Isometric and or relevant IFC drawing;
- Weld number or Item number tested;
- Applicable PWHT procedure;
- Weld number (or Item number), WPS number and Welder ID.
- A drawing / sketch to be provided for each assigned thermocouple to the component / weld being PWHT.

## **6.7 Protective Coatings**

Coating procedure(s) applicable to Contractors scope of works shall be submitted to Company for review and approval prior to the commencement of Coating activities.

As a minimum Contractor coating procedures shall include the following:

- Surface preparation requirements;
- Environmental conditions / requirements;
- Operator qualifications;
- Proposed coating system and datasheets;
- Inspection and testing requirements;
- Inspection and test equipment, including calibration or any proposed comparator samples;
- Daily and final report formats.

#### **6.7.1 Coating Inspection**

Coating inspectors shall be familiar with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) for Contractors scope of works.

Coating inspectors shall be qualified to a minimum of level II in accordance with an accredited certification scheme such as those offered by NACE or equivalent.

#### **6.7.2 Pickling and Passivation**

All Pickling and Passivation activities within Contractors scope of works shall comply with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s).

Pickling and Passivation procedure(s) applicable to Contractors scope of works shall be submitted to Company for review and approval prior to the commencement of activities.

#### **6.8 Pressure Testing**

All pressure testing within Contractors scope of works shall comply with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s).

All test equipment shall have been calibrated by a NATA endorsed laboratory or third party equivalent within the previous six months.

Pressure gauges shall have a full scale deflection of 1.5 to 3.0 times the prescribed test pressure.

Pressure test activities shall be nominated on the applicable ITP as per Section 4.3 as a Hold Point. Notification of test activities shall be in accordance with Section 4.4.

#### **6.8.1 Hydrostatic Testing**

Hydrostatic test procedure(s) shall be submitted to Company for review and approval.

All hydrostatic pressure tests shall be recorded with a test gauge and chart recorder. The chart recorder shall be capable of recording both pressure and temperature for the full duration of the test. Alternatively, temperature may be recorded independently provided Company approval is gained.

Contractor shall prepare hydrostatic test packs for all systems prior to commencement of the test. Test packs shall contain as a minimum (but not limited to) – hydrostatic test procedure, P&ID's, isometric drawings, check and data sheets relevant to each test section. Test packs shall clearly identify the battery limits of the test.

A register of all test packs shall be prepared and maintained during the test program to identify the status of each test and to ensure each system is fully tested.

Hydrostatic test reports shall be generated for each individual test, test reports shall be endorsed by a certified NATA signatory.

Hydrostatic test reports shall be traceable in accordance with Section 6.4.3 as prescribed for NDT reporting.

### **6.8.2 Pneumatic Testing**

Due to the inherent risks associated with pneumatic testing, Company approval shall be sought before the commencement of any pneumatic testing activities.

### **6.9 Mechanical Testing**

When required by the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) Contractor shall perform all required mechanical testing.

#### **6.9.1 Mechanical Inspection**

Mechanical inspectors shall be familiar with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) for Contractors scope of works. Mechanical inspectors shall be suitably qualified in accordance with AICIP and have a suitable level of experience in relation to the specific equipment they are to perform inspection(s) on.

### **6.10 Electrical Testing**

When required by the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) Contractor shall perform all required electrical testing.

#### **6.10.1 Electrical Inspection**

Electrical inspectors shall be familiar with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) for Contractors scope of works. All electrical inspection(s) shall be conducted by a licensed electrician within the state or territory jurisdiction that Contractors scope of works is being conducted in. Additionally, electrical inspectors performing EEHA inspection(s) shall be suitably experienced, qualified and competent in accordance with AS 4761.1. Electrical inspectors performing inspection(s) on works to be installed in Australia shall hold a valid Australian electrical license regardless of the inspection location(s).

### **6.11 Factory Acceptance Test (FAT)**

When required by the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) Contractor shall perform the required scope of FAT for Contractors scope of works. Contractor shall develop FAT procedure(s) and submit to Company for review and approval. FAT activities shall be nominated on the applicable ITP as per Section 4.3. Notification of FAT activities shall be in accordance with Section 4.4.

### **6.12 System Integrated Test (SIT)**

When required by the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) Contractor shall perform the required scope of SIT for Contractors scope of works. Contractor shall develop SIT procedure(s) and submit to Company for review and approval. SIT activities shall be nominated on the applicable ITP as per Section 4.3. Notification of FAT activities shall be in accordance with Section 4.4

### **6.13 Lift, Load, Pull and Drop Testing**

When required by the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) Contractor shall perform the required Lift, Load, Pull and/or Drop test(s) in accordance with Company Specification 0000-AG-SPC-60002.

Contractor shall develop Lift, Load, Pull and/or Drop testing procedure(s) and submit to Company for review and approval. Test activities shall be nominated on the applicable ITP as per Section 4.3. Notification of test activities shall be in accordance with Section 4.4.

Contractor shall ensure all post-test visual inspection and NDT activities are completed and compliant as per the applicable Standard(s), Code(s) and Specification(s). All post-test inspection and NDT activities shall be nominated on the applicable ITP as per Section 4.3.

When required by the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s) Lift, Load, Pull and/or Drop testing activities shall be verified by the IVB. This shall be nominated on the applicable ITP as per Section 4.3. Notification IVB activities shall be in accordance with Section 4.4.

### **6.14 Small Bore Tubing (SBT)**

All SBT (inclusive of sub assembly SBT) within Contractors scope and works shall comply with the Purchase Order and/or Contract referenced Standard(s), Code(s) and Specification(s). Contractor shall submit a SBT Management Plan that details the controls and processes that will be implemented in relation to assembly and installation of SBT to Company for review and approval prior to commencement of manufacturing activities.

#### **6.14.1 SBT Installation**

Contractor shall ensure all personnel responsible for the preparation and/or installation of SBT, associated fittings and supports are formally trained and assessed for competency by either the manufacturer (i.e. Swagelok, Gyrolok) or a training provider endorsed by the manufacturer.

All manufacturers recommended tooling (i.e. depth marking tools) shall be used during the preparation and/or installation of SBT and associated fittings.

#### **6.14.2 SBT Inspection**

Contractor shall ensure all personnel responsible for the inspection of SBT are formally trained and assessed for competency by either the manufacturer (i.e. Swagelok, Gyrolok) or a training provider endorsed by the manufacturer.

All manufacturers recommended tooling (i.e. gap inspection gauges) shall be used during the inspection of SBT.

### **6.15 Flange Management**

Contractor shall operate and maintain a flange management system that is capable of recording and tracking all relative aspects of flanged connections. Contractor shall develop a flange management procedure(s) and submit to Company for review and approval. Contractor flange management procedure(s) shall comply with Company Standard X060-AM-SPC-60002 and as a minimum shall include the following:

- Personnel training and competency assessment requirements;
- Bolt, Stud bolt and/or Nut type;
- Torque or Tension Equipment to be applied;
- Torque sequence and values;
- Stud Bolt lengths in relation to the type of Tightening equipment applied;
- Gasket type;
- Anti-seize compound type;
- Flange tag requirements.

### **6.16 Packing, Transport and Preservation**

Contractor shall ensure that all works supplied under Contractors scope of works are suitably packaged in order to ensure no damage is incurred during transportation and/or storage.

Specific preservation requirements for Contractors scope of works shall be detailed in the Purchase Order and/or Contract documents. As a minimum, Contractor supplied works shall be suitably packaged to ensure equipment / component preservation is guaranteed for a minimum of Twenty Four (24) months.

Contractor shall identify specific and ongoing preservation requirements for Contractors scope of works equipment / components. These requirements shall be identified and detailed in a "Preservation and Storage Procedure" which shall be submitted to Company for review and approval.

**APPENDIX A: MINIMUM MATERIAL CERTIFICATION REQUIREMENTS**

**Note** – Appendix A is not a complete listing but provides the minimum certification requirements where not stated otherwise in the Purchase Order and/or Contract referenced Standard(s), Code(s), Specification(s) and/or Datasheet(s).

<b>Component</b>	<b>Certificate Type (BS EN 10204)</b>
<b>Structural Steel</b>	
Primary Structural Steel (beams, plates, columns, tubular sections, pipe)	3.1
Secondary Structural Steel (beams, plates, columns, tubular sections, pipe)	3.1
Non Structural Steel (beams, plates, columns, tubular sections, pipe)	2.2
Stainless Steel and Aluminium (plates, tubular sections, pipe)	3.1
<b>Bolting / Fasteners</b>	
Structural Bolting ( $\geq$ Gr 8.8)	3.1
Pressure Retaining Bolting	3.1
General Bolting ( $\leq$ Gr8.8)	2.2
<b>Piping / Tubing</b>	
C-Mn Steel Pipe, Flanges & Fittings	3.1
Low Alloy Steel Pipe, Flanges & Fittings	3.1
Austenitic Stainless Steel Pipe, Flanges & Fittings	3.1
Duplex and Super Duplex Pipe, Flanges & Fittings	3.1
Titanium Pipe, Flanges & Fittings	3.1
Nickel Alloy Pipe, Flanges & Fittings	3.1
Copper Alloy Pipe, Flanges & Fittings	3.1
<b>Gaskets</b>	
RTJ Stainless Steel & Nickel Alloy	3.1
RTJ Carbon Steel & Soft Iron	3.1
Semi Metallic (Spiral Wound)	2.2
Non Metallic (PTFE, Néoprène etc.)	2.1
<b>Seals</b>	
Metallic Seal	3.1
Non-Metallic Seal	2.2
<b>Other</b>	
Pressure retaining & containing parts and/or components (valve body, nozzle, disk etc.)	3.1
Moving / rotating components (impellers, shafts etc.)	3.1

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Name	Title
Andrew Higgins	Technical Director
Ian Niven	General Manager System Eng & Int

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Name	Title	Date and Time	Action
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