

JIP33 PROCUREMENT SPECIFICATIONS IMPLEMENTATION GUIDES

JIP33 Quality Requirements Specification Implementation Guide



Acknowledgements

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About

This document describes how to use the IOGP JIP33 Quality Requirement Specification (QRS) document. This document provides guidance to all functions specifying, purchasing, and manufacturing equipment within operators, engineering, procurement, and construction (EPC) contractors, and suppliers in the petroleum and natural gas industries.

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Revision history

VERSION	DATE	AMENDMENTS
1.0	December 2022	First release

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1. Introduction

Initiated by IOGP and endorsed by the World Economic Forum, Joint Industry Programme 33 (JIP33) creates standardized procurement specifications that add value by making the supply chain faster and more efficient.

This document describes how to use the IOGP JIP33 Quality Requirement Specification (QRS) document. This document provides guidance to all functions specifying, purchasing, and manufacturing equipment within operators, engineering, procurement, and construction (EPC) contractors, and suppliers in the petroleum and natural gas industries.

JIP33 Specifications are relatively new within the industry. IOGP generated this document to support successful implementation of JIP33 Quality Requirements Specifications (QRS) to help obtain the value from IOGP JIP33 Programme.

The document provides guidance on implementing the QRS, setting conformity assessment system (CAS) levels, and identifying how the flexibility of the QRS supports the use in different contracting models. Where necessary, background information is shared to help end users understand the intent of the QRS and how to work with JIP33 specification packages. This document further explains the interfaces within the JIP33 IRS and further defines terms where needed.

Historically, oil and gas operators request suppliers to deliver equipment and materials against a different set of requirements for each order, often hundreds of pages long. Specifications can be different for projects being executed by the same company. This is incredibly inefficient, so by standardizing the specifications used for procuring equipment and materials, the supply chain can become better, faster and more cost effective.

1.1 JIP33 Procurement Package

JIP33 specifications build on existing industry standards to provide a set of requirements to purchase equipment and packages. The set of requirements is structured into the following documents:

- Quality Requirements Specification (QRS), specifying quality management system and inspection and testing requirements
- Technical Requirements Specification (TRS) for an industry standard, specifying a set of “minimum requirements” sufficient to purchase equipment that meets functional needs of end users; sometimes referred to as “supplementary technical requirements” to industry standards
- Information Requirements Specification (IRS), specifying a list of pre-defined documents and data required to be delivered by the supplier
- A Procurement Data Sheet, specifying the options, within the limits permitted in the technical requirements, the purchaser wishes to select (including the CAS level) and project specific information; sometimes referred to as Equipment Data Sheet or Data Sheet.

2. Quality Requirements Specification (QRS) Overview

The following describes what the QRS is, what it contains, and how it is developed and maintained.

2.1 QRS Description

The quality requirements specification (QRS) provides:

- supplier quality management system requirements
- purchaser conformity assessment activities
- certification type and material traceability requirements

However, most of the focus of the QRS is on providing a list of the quality intervention activities (titled the purchaser assessment activities in the QRS, the second bullet point in the list above) the purchaser wishes to participate in and to what level to verify conformance to the technical requirements of the product being purchased. The supplier uses this information to help populate the Purchaser's column within the supplier's Inspection & Test Plan (ITP).

The purchaser intervention activities are identified through the selection of one of four CAS levels based on a risk and criticality determined by the end user. The applicable CAS level is specified by the purchaser in the equipment data sheet or purchase order.

The QRS is used in conjunction with the technical requirements specification (TRS), the equipment data sheet and the information requirements specification (IRS), which together comprise the full set of specification documents. The introduction section in the TRS provides further information on the purpose of each of these documents and the order of precedence for their use.

2.2 QRS Development

Understanding how the QRS document is developed may help those who are responsible for specifying, purchasing, and manufacturing equipment to JIP33 specifications. Knowing the development and source of the quality intervention activities helps one understand the context and intent of the QRS.

During technical specification development, selected IOGP subject matter experts from the industry identify (flag) technical requirements with associated quality verification requirements which will be undertaken by the supplier and, when justified based on the risk, may be subject to verification by the purchaser. The specification development team use the flagged requirements to define key quality verification requirements which suppliers would be expected to include in their control plans, and which may be subject to verification by purchasers, their representatives, or third parties representing regulatory obligations. The team further defines the extent of the purchaser's interventions per each

CAS level. The resulting technical specification, quality requirements specification, and information requirement specification are then reviewed by extended IOGP JIP33 resources for alignment across the IOGP Members for alignment.

2.3 QRS format and content

The QRS document is standardized across all JIP33 specification packages and consists of the following sections:

Foreword

Introduction

1. Scope

2. Normative references

3. Terms and definitions

4. Symbols and abbreviations

5. Quality requirements

5.1 Quality management system

5.2 Conformity assessment system

6. Certification and traceability

7. Evidence – conformance records

Annex A – Purchaser conformity assessment requirements

Annex B – Certification traceability and requirements

2.4 QRS availability and versions

QRS documents are published with a noted version number and date of publication. Current and previous current versions of specifications can be downloaded from the JIP33 specification library.

The cover page of specifications published after March 2022 contains the following information for version control:

- Publication date and version number of the document in the top right corner
- Specification title and number at the top, such as S-619Q

A revision history is listed in the second page of the QRS. Previous versions can be accessed through the [JIP33 specification archive](#). From April 2022 onwards, IOGP will publish a red-line version of any updated specification to show changes from the previous version in the specification library.

3. QRS Implementation Guidance

3.1 Guiding Principles

There are three main guiding principles that help support the QRS implementation. It helps to describe these to understand how the Technical Requirements Specification (TRS), Data Sheet, Quality Requirements Specification (QRS), and Information Requirement Specification (IRS) work together.

Principle 1: Intervention is based on risk

The QRS allows the operator/contractor to specify increased or decreased intervention based on risk. The purchaser determines the level of intervention or CAS level. There are four different conformance levels, A to D. Level D is the lowest risk, meaning the product plays a non-critical role, the environment is low risk, and/or the supplier has proven performance. The corresponding quality and intervention requirements are low. Level A, on the other hand, means the equipment plays a vital role in a high-risk environment with a potentially unproven supplier; therefore, more vigilance and interventions are warranted on a more frequent basis.

Principle 2: Content is activity based

Items listed in the QRS shall be activities and not document deliverables. All documents that are expected to be submitted to the purchaser (or their contractor) shall be listed in the IRS. If a document needs to be reviewed by the onsite representative as a part of a quality activity, the activity of validating the document can be listed.

Principle 3: Company overlays are not desired

JIP33 recommends that companies not create specific overlays on the requirements specifications, including the QRS, giving unique or different intervention points or levels for the same conformance activity. Overlays defeat the purpose of JIP33 and erode the value for the purchasers and the suppliers. However, there are cases where overlays and company specific information are needed to provide context or supplement the QRS.

3.2 Clarification of terms used in QRS Section 3

Terms and definitions applicable to the QRS are included Section 3 of a QRS. This implementation guide provides further details to clarify the intentions and differences of the QRS intervention levels. Clarifying these terms is important since the same terms are used in supplier ITPs and can have different interpretations in other contexts.

Surveillance (S): Further guidance on the use of the surveillance intervention point is that surveillance is:

- periodic, random, or percentage sample inspection
- at the location of work during engineering or manufacturing
- There is no requirement to notify the purchaser, therefore there is no delay to the supplier's schedule

Review (R): Further guidance on the use of the Review intervention point is that review is:

- Intended to be the review of supplier information or documentation at the point of work (quality intervention activity) to determine the suitability, adequacy, or effectiveness of the information to verify conformance (ISO 29001)
- Typically performed on a surveillance basis

Important note: formal submittal of supplier documentation is managed by the IRS which contains a list of document deliverables and contains the purpose of the submittal (for information or approval). Therefore, the QRS Review intervention point is not used for the formal review or approval of document deliverables.

3.3 Conformity Assessment System (CAS) levels

The QRS uses a CAS to increase or decrease the purchaser's level of intervention based on risk and criticality. The CAS level (A, B, C, or D) is specified by the purchaser in the equipment data sheet or purchase order. The purchaser uses their risk and criticality assessment process to determine the appropriate CAS level specific to the specific application, service, and scope of the equipment. The risk assessment process and CAS level selection is likely to involve consultation with technical, quality, and commercial specialists.

Typical risks include:

- A product that is in critical service or required to operate with a high degree of reliability or has a high consequence of failure.
- An application or product that is novel and unusual for the industry or the supplier.
- An existing supplier's new facility, supplier is unknown, or has unproven or low performance history.

Table 1: Guidance on which CAS level applies to the level of risk, where CAS A has the highest risk and CAS D has the lowest risk and is considered the default selection.

CAS Level	Guidance on intended use or scenario
A	CAS A is intended for equipment applications requiring high reliability, with a high-risk profile (with high potential and severe consequences), and/or high risk/criticality to project delivery. CAS A enables a higher degree of purchaser intervention levels (i.e. hold points versus surveillance).
B	CAS B would be applied to medium service risk equipment and where supply chain risk is medium or high
C	CAS C would apply to lower service risk and where the supply chain risk is considered to be low
D (Default)	CAS D is intended to represent essential minimum intervention to verify conformance to be applied for lower criticality equipment delivered by qualified suppliers with proven performance. CAS D provides the potential for off-the-shelf solutions and commodity purchase. CAS D should be considered the default selected level.

The purchaser should select the CAS level at the time of placing the purchase order which is aligned to anticipated supply chain risks with various suppliers. At the time of contract, the default CAS D may be chosen prior to design or supplier selection. The purchaser may adjust the initial CAS level during manufacture based on the actual selected supplier's performance and initial or reassessments of risk.

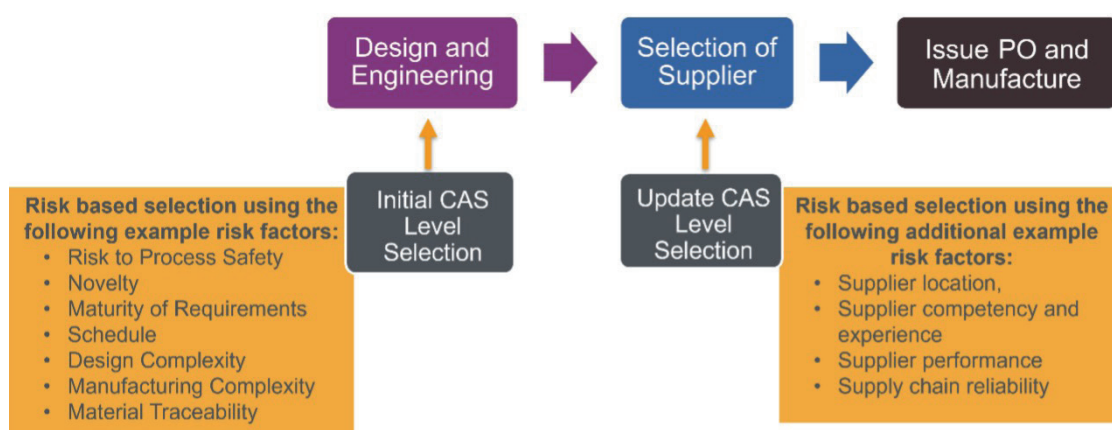


Figure 1: Example guidance on when to select CAS Levels and what risks to consider

3.4 Relationship between QRS and IRS

The Information Requirement Specification (IRS) defines the required document deliverables from the supplier to the purchaser for information purposes or for purchaser's approval. If the document is meant to be delivered as part of the contract, the document shall be listed in the IRS, but if the document does not need to be approved, but must be available onsite during a manufacturing activity, it can be listed in the QRS. In the simplest terms, Review (R) referred to in the QRS refers to a review at the supplier facility; however, when the document is listed in the IRS for review it means the document is required to be submitted to the purchaser for formal review.

The IRS will include quality related deliverables such as the quality management plans, inspection and test plans, certificates of conformity, and Non-Destructive Examination (NDE) Reports.

Even though the QRS mainly lists intervention activities, there are a few documents listed in the QRS. When documents are listed, the activity is to validate the supplier information or documentation at the point of work to determine the suitability, adequacy or effectiveness of the information to verify conformance.

Refer to Section 3.2 for a more detailed definition of the Review point within the QRS.

4. QRS implementation in procurement

4.1 Procurement steps

The QRS is utilized in a procurement package in a few key steps:

- 1) **Purchaser finds the QRS.** The QRS can be found integrated into the purchasers' library of equipment specifications or on the IOGP Website.
- 2) **Select the CAS Level.** Guidance on selecting the CAS level is provided in Section 3.3.
- 3) **Add the CAS level to the Data Sheet** and include the datasheet within the JIP33 Equipment Procurement package which also includes the Technical Specification and IRS.
- 4) **Send** the JIP33 Equipment Procurement Package to the supplier or contractor.
- 5) **Supplier incorporates** the Purchaser's expected intervention activities and level of involvement within the Purchaser's column of the supplier's ITP.
- 6) The Supplier's **ITP is submitted to the purchaser.**
- 7) **Purchaser reviews** the ITP against the QRS to confirm the quality requirements are contained in the supplier's ITP. In the event there is a difference during this review process, then the supplier may need to resubmit a revised ITP.

4.2 Procurement implementation variations

Since not all companies have the same procurement processes and not all project contract models are the same, the QRS procurement process is flexible to enable various implementation methods across the industry. Different parties can complete the steps listed in section 4.1.

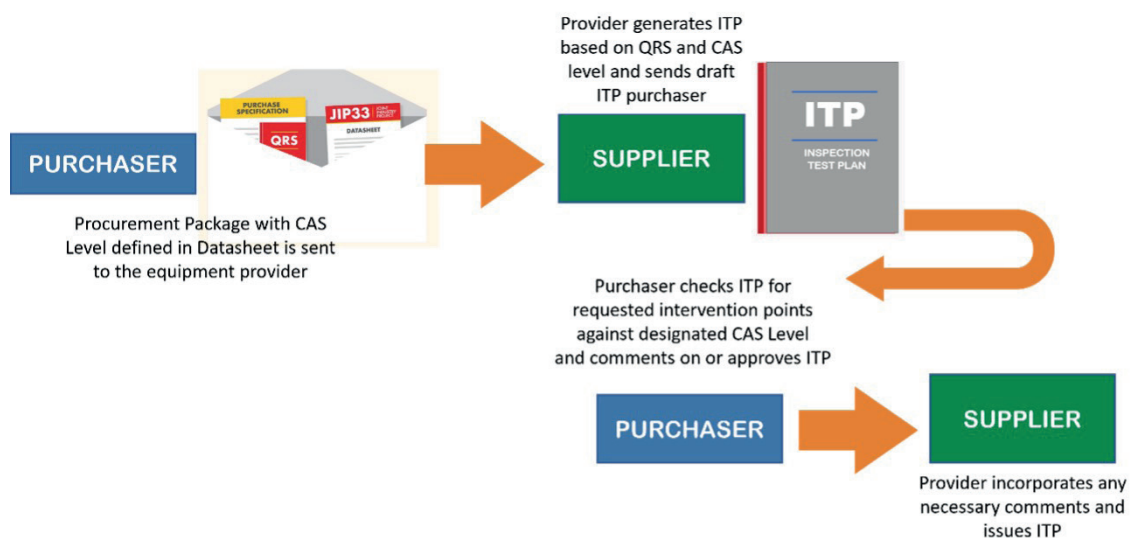


Figure 2: Simple example QRS procurement flow

Figure 2 is a simple example of the procurement process. In this case, the purchaser contracts the provider/supplier directly. The following are examples of the variances that can exist at the time of contracting: the operator may include scope of work for the contractor to perform:

- Concept **engineering** requiring the contractor to use/specify JIP33 specifications where possible (no scope at the QRS level)
- Detailed **engineering** to specify JIP33 packages, complete the datasheet, and select the CAS level
- Detailed **engineering** to specify JIP33 packages, complete the datasheet, and select the CAS level and procure
- No engineering but scope includes **procuring** JIP33 packages with provided and completed datasheets and pre-specified CAS Levels
- No engineering but scope includes **procuring** JIP33 packages with provided and completed datasheets and reassess the pre-specified CAS Levels based on chosen supplier
- No engineering but scope includes **procuring** JIP33 packages and performing the risk assessment to select CAS level within the procurement package once supplier is known

In addition to the above variances, additional variances may arise when the operator requires the contractor to utilize the operator's frame agreements with specific suppliers versus allowing the contractor to select any supplier. The following figure is one example of a detailed implementation process of procuring equipment with a JIP33 package through an EPC.

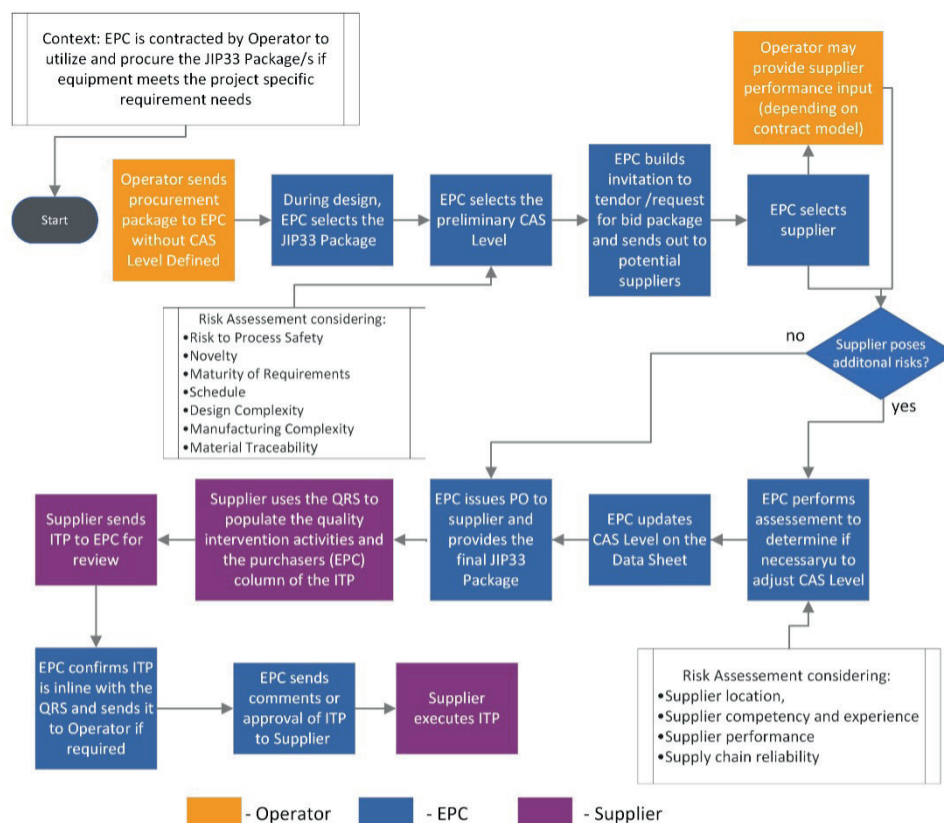


Figure 3: More complex example of QRS implementation with an EPC

4.3 Contracts, frame agreements, and terms and conditions

Prior to the procurement steps and procurement process variances discussed in Sections 4.1 ad 4.2, establishing contracts or evaluating existing contracts or frame agreements should occur.

The following are examples of terms and agreements that could be recognized to evaluate if additional implementation processes are necessary.

- Deviations – deviation to a JIP33 specification or QRS can be managed the same as any other deviation to a technical requirement.
- Pre-existing Frame Agreements between provider/supplier and purchaser - evaluate the benefit of stating the JIP33 specification supersedes prior technical specification for the same/similar equipment or modify the Frame Agreement to include the JIP33 specification as the Frame Agreements default specification.
- Pre-existing Master Service Agreements or Frame Agreements that define quality management requirements, inspection notifications, or pre-established ITPs - the contract or purchase order may need to address which take precedence between the QRS and the ITPs within frame agreements.

4.4 QRS document sources and company overlays

Prior to the procuring of equipment with the JIP33 specification package, the JIP33 specification package with the QRS needs to be located and it can be found integrated into the purchasers' library of equipment specifications or in the JIP33 Specifications Library. If the specification package is within the purchaser's library, it can be incorporated into the company's template with company cover pages and contain guidance on how the JIP specification interfaces with existing company documents or processes. Overlays that contain requirement changes are not desired and erode value from standardization.

5. Implementation success factors

5.1 Improved implementation practices

A few best practices and lessons learned have emerged that improve implementation of JIP33 and the QRS adoption. Below is a list of best practices that may support the implementation in other companies.

- Establish 'buy in' from engineering and procurement when engaging with suppliers or company engineers by highlighting the benefits of JIP33, including:
 - Metrics on cost savings and hours reduced
 - Savings from not having to generate ITP for each customer using the JIP33 specification
 - Efficiencies of having established standard quality documentation available versus submitting bespoke documentation for approval
 - Savings from the reduction of comments and exceptions during contract review
- Establish a way of working to manage frame agreements
 - Adjust frame agreements to replace existing specifications with JIP33 specifications as default
 - Establish document hierarchy schemes with JIP33 specifications relative to pre-existing specifications
- Establish visible management commitment (operators and EPCs)
- Provide education and training for EPCs and suppliers
- Support and seek contributions from suppliers
- Support limited variance from operators through overlays
- Incorporate IOGP specifications into the parent standard (API, ISO, JIP35, etc.)
- Promote and ask suppliers to provide feedback on the reduction of comments and exceptions during contract review
- Adopt within the standard workflow and approved list of specifications for use by engineers
- Establish metrics to measure the implementation of JIP33 specifications, utilization of QRS documents, clarifications before and after implementation, and value obtained.

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