



Exploration & Production

GENERAL SPECIFICATION

Drilling & Wells

GS EP FP 370

Inspector Qualification & Approval Process

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1. Scope

This document is to define the qualification and approval and derogation process for all inspectors that will inspect equipment that is used by the Drilling and completion departments and surface equipment (i.e. downstream of the flow line connection) managed by Technology departments within the TOTAL group.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
API SPEC 5CT	Specification for Casing and Tubing
ISO 11960	Petroleum and Natural Gas Industries – Steel Pipes for Use as Casing or Tubing for Wells
ISO 13679	Petroleum and Natural Gas Industries – Procedures for Testing Casing and Tubing Connections

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
Not applicable	

Total General Specifications

Reference	Title
Not applicable	



3. Foreword – General definitions

Definitions

Declaration of competence

Written statement by the inspection company giving an assurance, under his sole responsibility, that the person has attained a level of training, experience and knowledge in inspection that will not compromise TOTAL operations.

Approved

The final approval process of inspector's to be used for the products described shall only be done by;

- **TOTAL FP / MTH - QAQC** for drilling and completion equipment
- **TOTAL TEC - CQI** for surface equipment (i.e. downstream of the flow line connection)

Glossary

NDE Non Destructive Examination

OCTG Oil country Tubular Goods

4. Pre-requisite qualifications

Inspection Company shall ensure that candidates presented, for qualification leading to a declaration of competence, in accordance with this company general specification, have the necessary training and experience in the applicable inspection field and visual accuracy to perform correctly inspection tasks.

Visual accuracy

The inspection company shall provide for candidate proof of satisfactory vision as determined by an optometrist or other medically recognized person in accordance with the following requirements:

- near vision shall permit reading a minimum of Jaeger number 1 at not less than 30 cm, or equivalent, in at least one eye, corrected or uncorrected
- Color vision shall be sufficient that the candidate can distinguish and differentiate contrast between different colors

The verification of the visual accuracy shall be done annually (12 Months) under the responsibility of the inspection company.

A copy of the proof "certificate" should be kept on file by the inspection company and made available upon request.

Training

The inspection company shall assure that each candidate have successfully completed a training programme in the applicable Inspection field. The training period given should include both theoretical and practical training.

The training program should be agreed with TOTAL and any modification afterwards.

HSEQ rules

Inspection company shall assure that each inspectors know and respect Total HSEQ rules.

Experience

For each TOTAL operational discipline see the relevant annex

Annex 2 for drilling and Completion equipment

Annex 3 for surface equipment (i.e. downstream of the flow line connection)

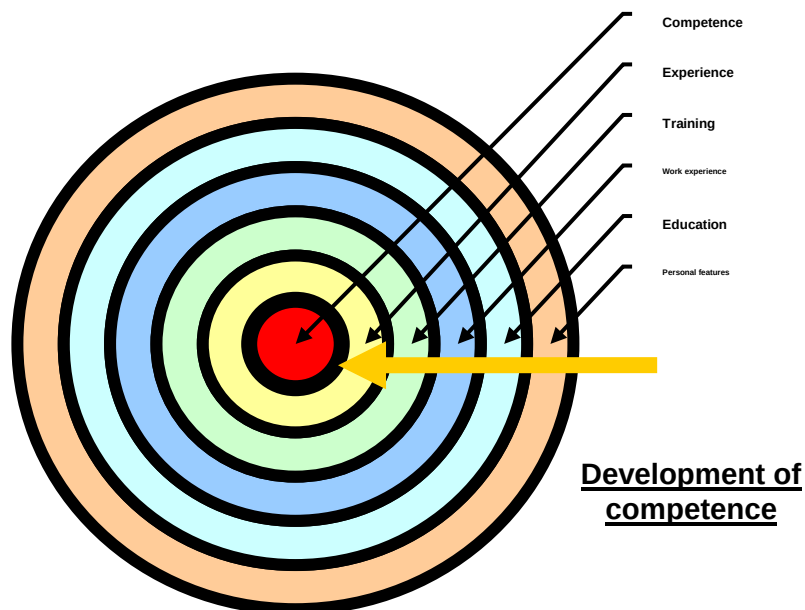
The inspection company shall have in place an evaluation and skills improvement system, for its inspectors, in accordance with all the above qualification pre-requisites. This system shall be audited by Total.

5. Competence and evaluation of inspectors

Confidence and reliance in the inspection process depends on the competence of those conducting the inspection. This competence is based on the demonstration of

- The personal features
- The ability to apply the knowledge and skills gained through the education, work experience, auditor training and inspection experience.

This concept of competence of inspectors is illustrated in **Figure 1.**



Recommended Personal features

The Inspection company shall ensure that their inspectors possess personal features to enable them to act in accordance with the principles of inspection

An inspector should be:

- ethical, i.e. fair, truthful, sincere, honest and discreet
- open-minded, i.e. willing to consider alternative ideas or points of view

- diplomatic, i.e. tactful in dealing with people
- observant, i.e. actively aware of physical surroundings and activities
- perceptive, i.e. instinctively aware of and able to understand situations;
- versatile, i.e. adjusts readily to different situations
- tenacious, i.e. persistent, focused on achieving objectives
- decisive, i.e. reaches timely conclusions based on logical reasoning and analysis
- Self-reliant, i.e. acts and functions independently while interacting effectively with others

Knowledge and skills

The Inspection company needs to ensure that their inspectors have knowledge and skills in the following areas.

i) Inspection procedures and techniques:

To enable the inspector to apply those appropriate to different situations and to ensure that the inspections are conducted in a consistent and systematic manner. An inspector should be able;

- o to apply inspection procedures and techniques
- o to plan and organize the work effectively
- o to conduct the inspection within the agreed time schedule
- o to prioritize and focus on matters of significance
- o to collect information through effective interviewing, listening, observing and reviewing documents, records and data
- o to verify the accuracy of collected information
- o to confirm the sufficiency and appropriateness of inspection evidence to support inspectors findings and conclusions
- o to assess those factors that can affect the reliability of the inspection findings and conclusions
- o to use work documents to record inspection activities
- o to prepare inspection reports
- o to maintain the confidentiality and security of information
- o to communicate effectively, either through personal linguistic skills or through an interpreter

ii) Management system and reference documents:

To enable the inspector to comprehend the scope of the inspection and apply the required criteria. Knowledge and skills in this area should cover;

- o quality or environmental management system standards, applicable procedures or other management system documents used as inspection criteria, recognizing differences between and priority of the reference documents



- o Application of the reference documents to different inspection situations, and information systems and technology for, authorization, security, distribution and control of documents, data and records
- iii) Organizational situations:
To enable the inspector to comprehend the organization's operational context. Knowledge and skills in this area should cover
 - o organizational size, structure, functions and relationships
 - o General business processes and related terminology, and cultural and social customs of the supplier
- iv) Applicable laws, regulations and other requirements relevant to the discipline:
To enable the inspector to work within, and be aware of, the requirements that applies to the organization being inspected. Knowledge and skills in this area should cover
 - o local, regional and national codes, laws and regulations
 - o contracts and agreements

Education, Work experience, inspection training and inspection experience

The Inspection company needs to ensure that their inspectors have the following education, work experience, inspection training and inspection experience;

- They should have completed an education sufficient to acquire the knowledge and skills described above
- They should have work experience that contributes to the development of the knowledge and skills described above
- This work experience should be in a technical, managerial or professional position involving the exercise of judgment, problem solving, and communication with other managerial or professional personnel, peers, customers and / or other interested parties.
- They should have completed inspector training that contributes to the development of the knowledge and skills described above.
- They should have inspection experience in the activities described in the experience section. This experience should have been gained under the direction and guidance of an inspector who is competent as an inspection team leader in the same discipline.

The inspection company shall have in place an evaluation and skills improvement system, for its inspectors, in accordance with all the points covered in this section 5. This system shall be audited by Total.

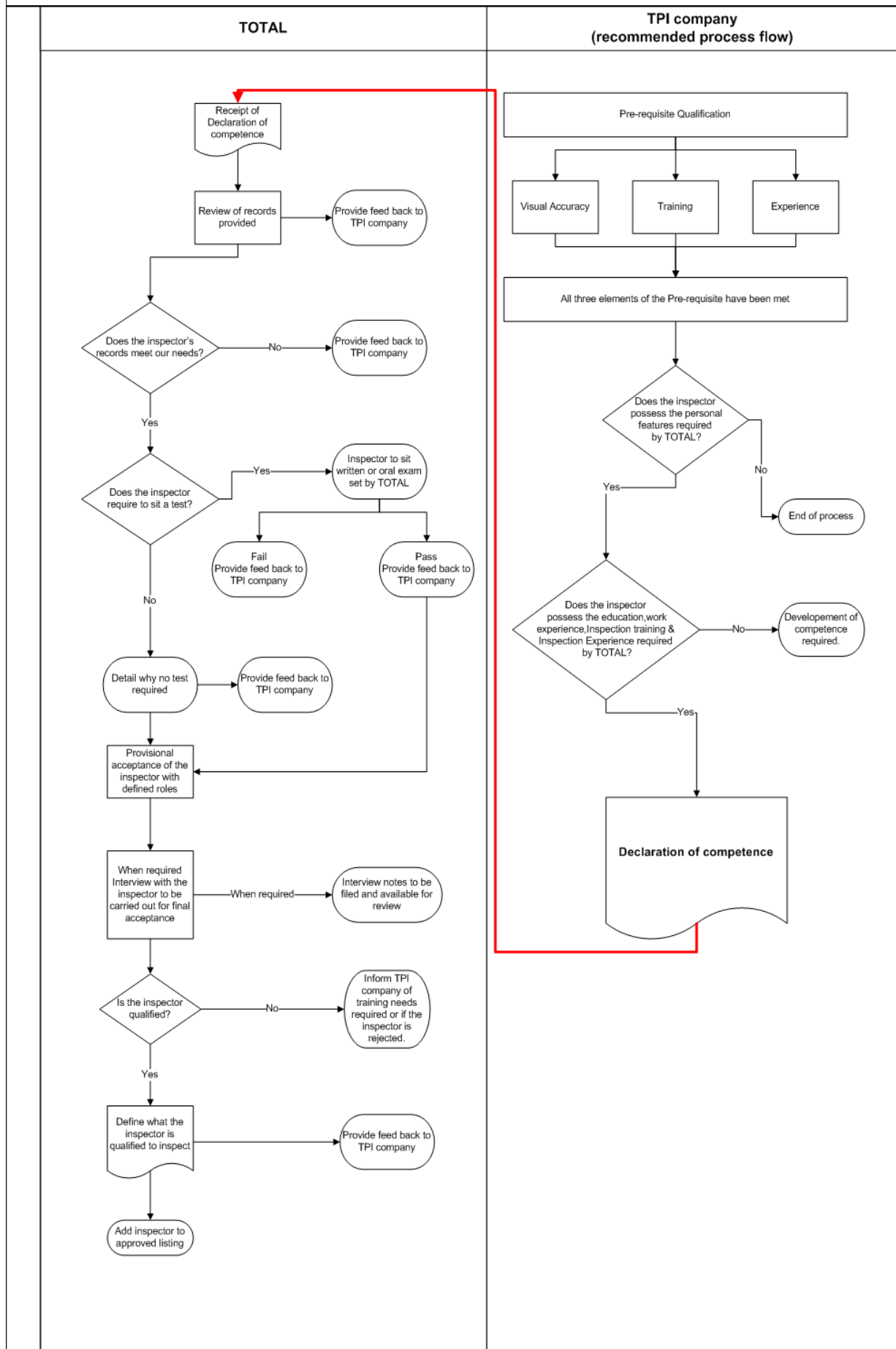
6. Qualification and approval process

The following process chart explains and defines the roles used during the qualification and approval process of third party inspectors for TOTAL.

For drilling and completion equipment - Only personnel from TOTAL FP / MTH - QAQC shall approve inspectors.

For surface equipment (i.e. downstream of the flow line connection) - Only personnel from TOTAL TEC / CQI shall approve inspectors.

Inspector Qualification Process





The process displayed on the previous page is mandatory for all inspectors to be used by TOTAL.

7. Validity

The inspector's approval will be valid for 5 years upon assumption that the conditions of the renewal process can be met.

The validity shall become invalid if;

- The inspector leaves the employment of the hired inspection company
- At the discretion of TOTAL if evidence demonstrates unethical behavior.
- The inspectors fail the vision requirement which shall be assessed annually.
- At the discretion of TOTAL if there is a continual poor performance
- If at any time the inspector or inspection company is audited and is proven to be unsatisfactory.

8. Renewal

The declaration of competence shall be renewed annually by the inspection company to TOTAL with the following:

- Evidence is provided of the last satisfactory annual visual examination
- Evidence is provided of continued satisfactory work activity without significant interruption in inspection techniques for which he is qualified, together with any up-dating of training deemed necessary by the inspection company.

If the renewal conditions are not met then the approval of the inspector becomes void and the inspector will not be suitable for work with TOTAL.

9. Derogations

When there is a need to use unapproved inspectors or the need to have other affiliates approve inspectors the following action shall apply;

- Only on a case by case basis (**one off**) and only with the approval by the TOTAL / / QA QC or CQI team shall an inspector who has not been through the process of qualification / approval be used.

In the above cases the attached derogation form in annex 1 shall be completed.

Where it has been reported that an inspector is not performing as requested by TOTAL, he / she will be suspended from use until the required agreed training program has been under taken at the cost of the inspection company. The inspection company shall re-assess the inspector before presenting to TOTAL.

In the same way, in case of repetitive important issues with an inspector, regarding all the points of section 4 and 5 of this document, and if no solutions can be found with inspection company, the inspector will be suspended and approval removed. If the inspection company want to re-present the inspector to TOTAL, the inspection company shall re-assess the inspector before presentation.



10. Audit

In case of important issues with an inspector or if necessary, TOTAL will request for an Audit of the inspector Qualification & approval process. The Inspection Company and inspectors should be able to accept a request for audit at any time with no period of notice. It is stressed that the Audit will not interfere with the normal working operations of the Inspection Company or inspector.



Appendix 1

	REQUEST FOR DEROGATION SUMMARY SHEET (Inspector qualification)	TDO/FP/MTH
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To be addressed to: TDO/FP/MTH or TDO /TEC/CQI

Subsidiary:

Date of request:

Title of request:

Equipment Supplier:

Equipment to be manufactured:

Subject and purpose (see NOTE 1):

Benefits anticipated if this request is granted (\$, or other, see NOTE 2):

Additional risks (if any) and associated consequences taken by not following up current standards (see NOTE 3):

NOTE 1: Reference to current Standards (FP rules or other) to be mentioned. Context, constraints, expected problems, and alternate solutions (if any) to be briefly analyzed. REMEMBER FP rule shall be enforced in case non approval of the request.

NOTE 2: Benefits evaluated only on the delta before-after derogation.

Includes all types of benefits (short term/long term, even if indirect, or if not directly quantifiable such as speed up of project...). Associated calculation hypothesis (inspection rate, time saved_{wp}) should be clearly mentioned.

NOTE 3: Consider only indirect damages: delays and costs to recover the control of the situation, or others, if not directly quantifiable.



Appendix 2

DRILLING & COMPLETION

Experience

Each candidate shall have the necessary experience in the applicable inspection discipline in relation to the basic technique and specialized skills required during the manufacturing of OCTG, wellheads, Christmas trees and down-hole equipment. There also should be sound working knowledge of API and ISO standards related to the inspection and manufacturing / testing of the above mentioned equipment.

OCTG Inspector: 3 Years Minimum experience in an OCTG Manufacturing Environment or associated disciplines defined as

- Tubular Processing
- Tubular Heat Treatment processing
- NDE
- Mechanical Testing (ASTM A370)
- End Finishing – (threading & gauging)
- Welding and welding inspection
- Trained & qualified in VAM, TENARIS, Hunting, Hydril premium and none premium connections
- Sound working knowledge in [ISO 11960 / API SPEC 5CT](#) and associated recommended practices and standards
- Connection qualification process and [ISO 13679](#)

Where the inspector has no experience it shall be highlighted.

Wellhead / X-mas trees / Down-hole equipment

Inspector: 3 Years Minimum experience in a wellhead/Christmas tree - Manufacturing Environment or associated disciplines defined as;

- Manufacturing Processing
- Heat Treatment
- NDE
- Mechanical Testing (ASTM A370)
- Assembly
- Factory acceptance testing (FAT)

Where the inspector has no experience it shall be highlighted.



Appendix 3

TEC

Each candidate shall have the necessary experience in the applicable inspection discipline in relation to the basic technique and specialized skills required during the manufacturing of the following surface equipment:

- Valves
- Pressure vessels
- Heat exchangers
- Piping and fittings
- Motor, turbines, pumps
- Pipelines and umbilicals
- Screwing and bolting
- Electrical equipment (switchboard, transformer, generator, cable, etc...)
- Instrumented equipment
- Steel or composite structure materials

This list presents, in nearly all the case, the equipment which shall be inspected, but can't be considered as an exhaustive list. TOTAL reserve the right to precise, later, needs for inspection, on specific equipment if necessary.

Each candidate shall be, in the applicable inspection discipline and in the applicable above mentioned equipment, sound working knowledge and 3 years experience at least, in the following associated disciplines:

- Heat treatment
- Welding and welding inspection
- Metallurgy
- Corrosion
- Cryogenic testing
- Destructive Testing (DT) and Non Destructive Testing (NDT) of the above mentioned equipment
- International practices and standards API, ISO, ASME, ASTM, ATEX for manufacturing, inspection and testing of the above mentioned equipment
- Factory acceptance testing (FAT)
- Dimensional checking
- Technical drawing review
- Skid assembly (gathering all the technical disciplines: Structure, Static equipment – Vessel and Heat Exchanger – Piping, Instrumentation, Electrical, Isolation, Painting, etc...)



- Subsea equipment

Each candidate shall be, in the applicable inspection discipline, sound working knowledge in TOTAL specifications (design, manufacturing, inspection, testing) for the above mentioned equipment.

When the inspector has no experience it shall be highlighted.