



Exploration & Production

GENERAL SPECIFICATION

Drilling & Wells

GS EP FP 350

Mill Inspection Activities of New Seamless OCTG

01	01/2012	Revision of the referential following E&P reorganisation, March 2011
00	03/2006	First issue
Rev.	Date	Notes

Owner: OPS/FP

Managing entity: OPS/FP



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1. Scope

The purpose of this General Specification is to provide the requirements for the mill surveillance/ inspection on new OCTG products at the manufacturer's locations. This General Specification establishes a set of guidelines to address the protocol used between purchasers, suppliers and the Third party inspection company for mill surveillance / inspection of new OCTG.

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
Not applicable	

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. Definitions

Purchaser	Is TOTAL SA or a TOTAL affiliate responsible for both the definition of the product and the inspection level requirements for the product.
Third Party (TPI) Inspection Company	The company, either hired or appointed by the purchaser
Mill	The plants, mills, workshops, laboratories or other locations where the fabrication, inspection and testing of new OCTG for the purchaser's use are to be performed complete or in part.
NDE	Non Destructive Examination
NFI	Notification for Inspection issued by the supplier
Supplier	Producer, processor, manufacturer, of the new OCTG
OCTG	Oil Country Tubular Goods
PPE	Personnel Protective Equipment
PO	Purchase Order is the Contractual Agreement issued by the Purchaser and sent to the supplier detailing a product description and the level of inspection to be used
Adequate	In the context of this document adequate means an agreed period of time that is suitable for both parties to manage the activities without any detrimental effect to the purchaser's product or service provided

4. Responsibilities

All the parties involved with mill surveillance / inspection of the OCTG supplied to the purchaser shall have clear and defined responsibilities:

Responsibility of the purchaser

The purchaser shall establish through purchase orders, specifications, pre-production meeting minutes, or other written communications the responsibility of each party based upon the following:

- The purchaser shall define the Third party inspection company and the inspection level on each item (if required) to be performed in accordance with the relevant TOTAL FP Company Rules.
 - *The purchaser may adjust the inspection level at anytime during the duration of the order, provided the supplier has opportunity to perform additional contract review and pricing because of the potential impact to production. In this case the supplier and TPI shall be notified so that there is an understanding between all parties as to the inspection and surveillance that is required.*

- The purchaser shall ensure on that clear documentation of the agreement between the purchaser and the supplier is provided to the Third party inspection company. This should include an **un-priced copy** of the purchase order including any applicable exceptions to the relevant specifications quoted.
- The purchaser shall determine the need of a pre-production meeting and shall ensure that the Third party inspection company is either represented at the meeting or is fully advised in writing of any agreements made between the purchaser and the supplier at the meeting.
 - *It is recommended that the Third party inspection company attend the pre-production meeting where possible.*

Responsibility of the Third party inspection company

The Third party inspection company shall be responsible for the following:

1. To ensure that a clear inspection level has been defined from the purchaser in written form before the commencement of any work.
 - *If it is not clear no work should be started until clarified by the purchaser on the inspection level to be carried out.*
2. To provide copies of the purchaser's documentation, PPE and other necessities to its employee's in order that the inspector is able to perform the assignment to a satisfactory standard.
 - *The TPI representative shall not commence there assignment unless the correct documentation has been supplied*
3. The activities of the TPI representative in the supplier's facility shall not interfere with the normal activities of the supplier, including production rates unless there is a clear justification to do so (**beforehand it shall be agreed with the supplier**).
4. To ascertain if the safety of the facility is of a satisfactory level before commencement of the surveillance / inspection. In the event of being not satisfactory the inspection company should alert the supplier of the concerns.
 - *All safety concerns shall be reported in written form to the purchaser with copy at all times to FP / MTH – QA QC.*

Responsibility of the supplier

The supplier shall be responsible for the following:

1. To ensure that a clear inspection level has been defined from the purchaser in written form before the commencement of any work on any product.
 - *If it is not clear no work should be started until clarified by the purchaser on the inspection level to be carried out.*
2. To allow the TPI controlled access to all area's of his facility which concerns the purchaser's product, while work on the purchaser's product is being performed.
3. To allow and give adequate notification to the TPI to allow them to prepare for the surveillance / inspection to be done on their premises.
 - *It is important this notification is agree in advance to avoid conflict.*
 - *In the event of conflict the supplier should contact the purchaser who shall arbitrate between the two parties.*



4. To send the Notification for Inspection (NFI) to the TPI as indicated on the purchase order or contract indicating the place of work and the type of inspection to be carried out.
5. To give adequate notification to the purchaser and the TPI of changes in plant scheduling that could affect the TPI activities related to the order.
6. To provide the TPI with reasonable resources to enable the TPI to report that the product as being produced in accordance with the applicable purchase agreement.
 - Reasonable resources typically include office space, telephone, internet access, mail / package delivery, and specialized PPE.
7. To present to the TPI for inspection only products that the supplier has found to meet its own QA QC standard and the purchaser's requirements.
 - The Third party inspection company should not be a replacement for the supplier's internal QAQC.
8. The supplier should identify any documents that are considered proprietary to the manufacture or processing of the product described in the purchase agreement. It should be established what parameters of such documents can be accessed, copied and returned during manufacture and processing
 - Gauging procedure, drawings, heat treatment parameters etc....
9. For the purpose of final decisions, the supplier's calibrated equipment shall be the ruling equipment.
10. It is the responsibility of the supplier to ensure that his facility is a safe working environment for the TPI to work in.

5. Inspection level

Inspection level appendices are included in this document.

Inspection level 1

This level requires an inspector, to perform routine non-specific observations to be carried out on a random basis. Operations may continue without the need for an inspector being present as long as notification for inspection has been sent to the Third party inspection company and in adequate time. – **No hold points would be observed during this inspection.**

Inspection level 2

This level requires an inspector, to perform routine specific observations as per the scope and to witness the production as part of the normal production operations. Operations may continue without the need for an inspector being present but an inspector needs to be present at some time during the production. – **No hold points would be observed during this inspection.**

Inspection level 3

This level requires an inspector, to perform routine specific observations as per the scope and to witness the production in the supplier's facility on each processing shift. Operations **shall not** continue without the need for an inspector being present. – **Hold points are where 100% is requested**

This level recognizes a lead inspector to supervise the Third party inspection company's team with full-time presence on each processing shift.



The work scope for each inspection level can be found in appendix 1.

6. Safety

The supplier shall inform the Third party inspection company of any potential safety hazards in the supplier's facility and expect the Third party inspection company to comply with all relevant safety considerations required of the supplier's employees.

The supplier shall identify the items of personal protection equipment required.

Explanation of safety issues inherent to the supplier's facility is the responsibility of the supplier. Such explanation shall take place prior to initiation of surveillance / inspection activities.

7. Gauges and Instruments

Inspection service companies may use their own gauges, instruments or measuring devices. However in the event of disputed measurements, the supplier's gauges, instruments, or measuring devices shall be the final arbiter in resolving the dispute.

The supplier's mechanical gauges, fixed gauges and electronic instruments or other gauges that are used for the purpose of determining material acceptance or rejection shall be calibrated on an established schedule and traceable to a national or international standard.

8. Inspection Procedures

The Third party inspection company shall have applicable specifications, standards, and un-priced purchase agreements and shall have access to those standard operating procedures for the processes / products being supplied.

9. Reporting

In the event of a Non-conformance-report (NCR) being issued by the Third party inspection company representative or the supplier. There shall be an agreement between the supplier and the Third party inspection company on the NCR before the TPI leaves the supplier's facilities.



Appendix 1

The requirements for the surveillance / inspection activities to be conducted by the Third party inspection company for the work that is associated with purchasing requirements.

The Inspection Level applicable to the surveillance / inspection activity will normally be given with the purchase order, but in any case shall be issued by the Purchaser.

Legends used in the scope of inspection table.

- R** Document review to be performed in parallel with other examination activities. If % sample of documentation to be done if quoted
- S** Surveillance checks to be performed during other examination activities. Routine non-specific observations carried out on a random basis. Operations may continue without the need for an inspector being present as long as notification for inspection has been sent to the Third party inspection company and in adequate time.
- x%** Sample of hands on inspection / surveillance checks to be performed.



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Appendix 1

Activity	Description of Activity	level of inspection		
		1	2	3
1	Attend if requested the purchaser a pre-production meeting at the Manufacturer's facilities or other location as agreed with the Purchaser	Yes	Yes	Yes
2	Determine whether handling and storage of pipes, materials and equipment meets specified requirements.	S	10%	25%
3	Witness the activities relating to traceability i.e. operations in the mill where the transfer or re-application of markings / identification takes place. Activities affecting traceability may include: - o Heat and billet identification. - o Charging of pipes to the heat treatment furnaces and re-application of identification after heat treatment. - o Cutting of coupling blanks. - o Transfer of identification during the cutting / machining of mechanical test samples. - o Identification for NDE, hydro-testing and final inspection activities. - o Removal and re-application of identification during any coating and marking processes. The inspection shall verify that all the markings on the selected pieces are correct and easily legible with the required details.	S	10%	25%
4	Incoming checks – (Heat treatment) Check incoming loads against delivery notes and random checks of the pipe dimensions / quality – Confirm material analysis certification.	S	10%	25%
5	Witness heat treatment operations, review heat treatment charts and verify that the correct works procedure / instruction is available at the workstation.	S 10%R	10% 100%R	25% 100%R
6	Straightening – witness straightening practice for the following; - o Hot – Temperature is being maintained and recorded for relevant material. - o Cold – no excess work being applied to the tube / casing	S	10%	25% 100%R
7	Witness calibration of automatic NDE equipment.	S	25%	100%
8	Witness the automatic and manual NDE operations including prove-up after remedial work and review the documentation and any applicable computer print-outs to verify that all pipes and couplings have successfully passed through the process. - Verify that the correct works procedure / instruction are available at the workstation.	5% 10%R	25% 100%R	100% 100%R



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Activity	Description of Activity	level of inspection		
		1	2	3
9	Witness mechanical testing.	S	25% 50%R	100% 100%R
10	Witness sulphide stress corrosion testing – sampling machining	S	25% 50%R	100% 100%R
11	End sizing – (where applicable) witness stress relieving on applicable material	S	25% 50%R	25% 50%R
12	Witness gauging of threaded connections as per drawing.	S	10% 25%R	25% 50%R
13	Witness pre-make up preparation; ○ Application of thread compound for “normal” T&C connections ○ Application of propriety “dope free” solution	S	10%	50%
14	Witness coupling make-up and verify correct coupling to ○ API triangle relationship ○ Torque-turn requirements for proprietary (premium) connections. Review torque-turn charts.	S 10%R	10% 25%R	25% 100%R
15	Witness hydrostatic test operations and review charts and / or computer records. Ensure hydrostatic test is at least 80% SMYS for 5 seconds or as per agreed in the PO / Q-Plan	S 5%R	25% 50%R	50% 100%R
16	Witness drifting operations and review drifting records.	S 5%R	10% 100%R	25% 100%R
17	Visually examine surface treatment of connections, e.g., phosphate, copper plating Dope free solution.	S	10%	25%
18	Perform final visual inspection and witness dimensional inspection for 13Cr materials check ID for correct blast cleaning and coating. Verify markings are to API and contractual requirements.	S	25%	100%
19	Verify re-application of correct metal-free storage compound and correct fitting of end / thread protectors as per PO / Q-Plan.	S	25%	100%



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Activity	Description of Activity	level of inspection		
		1	2	3
20	Review data package documentation and endorse if correct.	Yes	Yes	Yes
21	Issue Inspection Release Note(s).	Yes	Yes	Yes

Activity	Description of Activity	Inspection level		
		1	2	3
Couplings				
22	Coupling machining Witness gauging of threaded connections as per drawing. low stress die stamping (dependant on grade)	S	10% 25%R	25% 50%R
23	Witness calibration of automatic NDE equipment. Verify that the correct works procedure / instruction are available at the workstation.	S	25%	100%
24	9% Cr and above - if copper coating not being performed at the place of coupling manufacture sample of random inspection of coating on return. Unless agreed in the PO / Q-Plan to witness copper plating process.	S	25%	100% 100%R
25	Despatch of loose couplings - confirm that loose couplings packaging is inline with the PO / Q-Plan	Yes	Yes	Yes
26	Despatch of loose couplings – verify all documentation is complete and correct and all test clearances are available. Review delivery notes and test certificates.	Yes	Yes	Yes



Notes: for pipes and couplings

1. For Inspection Levels 1, 2 and 3, the TPI shall include examination of the first-off that is applicable to the activity, except where surveillance check (S) applies.
2. Where a sub-contractor is performing critical activities remote from the main Manufacturer's works, the inspection activities shall be performed at the sub-contractor's works using the same Inspection level for the activity unless it has been determined by the purchaser another inspection level should be used.
3. For all inspection / surveillance determination on whether the correct materials / calibration / reference / equipment are being used during the manufacture should be done where applicable.
 - Calibration of gauges / current revision of gauging procedure etc.
4. If during the main production,
 - More than 10% of the pipes are rejected in any day's production or re-routed for repairs or re-processing, then the Inspector shall have the right to ask the SUPPLIER to increase his Quality Control Programme to an appropriate level and to maintain it until the causes of the defective quality are identified and eliminated.
 - Where above rate attains 15%, the Inspector may require the main production to be stopped.