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	T. McCann	02/25/2009		
	APPROVED	DATE		
	M. Whitby	02/25/2009	A2	

Cameron Well Control Equipment – Periodic Inspection/Recertification

This document outlines the various types of field inspections, elastomer replacements and recertifications that are recommended or can be performed by Cameron through the life of the equipment. The frequency of the recertifications may be determined or defined by the Customer or local legislation in the Country of use. Recertification frequencies should be verified by the Customer and Cameron staff in the specific area of operation. This document is specific to equipment covered under API 16A and referenced in API RP 53 in Clauses 17.10.3 and 18.10.3.

It should be noted that equipment inspection must be performed using Cameron Bills of Materials and Engineering Drawings per the current revision levels. This document does not try to address the design of the rig well control system and how the Cameron products have been applied within that system.


Table 1 - Cameron Recommended Frequency

Typical products	Maintenance	Elastomer change out	Interim Field Inspection	Test and Fix leaks	Recertification (Period may be set by Local Authority and/or customer specific preventive maintenance program) API RP53 clause 17.10.3 and 18.10.3
Typical location for activity	Rig site	Rig site	Rig site or Cameron Repair facility	Rig site or Cameron Repair facility	Cameron approved repair facility.
Annular BOPs	Per operating manual	12 to 18 months	As required to establish wear or deterioration trends.	As required	3 to 5 years
Ram type BOPs and ram blocks	Per operating manual	12 to 18 months	As required to establish wear or deterioration trends.	As required	3 to 5 years
Gate valves/manifolds	Per valve maintenance manual.	12 to 18 months		As required	3 to 5 years
Chokes	Per maintenance manual.	12 to 18 months		As required	3 to 5 years
Risers	After every use.	12 to 18 months		As required	3 to 5 years

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Drilling Spools	After every use.	Not applicable		As required	3 to 5 years
BOP Control Systems	Per maintenance manual.	12 to 18 months		As required	3 to 5 years

1. Maintenance (Between Wells/Use or in Storage)

Cameron recommended maintenance procedures should be located in the product/rig manuals. Equipment owners may have adapted these to their own specific format or based on their specific operating environment, but the frequency and scope should be, as a minimum, per the Cameron recommended practice. In addition, product specific Engineering Bulletins may be referenced.

2. Elastomer Changeout

Elastomer products may deteriorate with age irrespective of the preventative measures taken to limit or restrict the rate of this deterioration. Periods of inactivity can also be more detrimental than continued use. Therefore, Cameron recommendations regarding elastomer change out should be followed per the specific product operating and maintenance manual. Ram and annular packer condition monitoring should be included as part of the rig maintenance between wells.

3. Interim Field Inspections

These are typically performed where a rig transfer between operating areas or where there is a change in the Client. Field Inspections provide an evaluation of the equipment condition prior to the equipment being sent for its formal recertification. These inspections can be performed at the rig or a remote work site that has adequate mechanical handling and other facilities to enable disassembly of the equipment. This would typically only be performed on Ram and Annular type BOPs but may include other related drill through equipment. A certificate of compliance cannot be provided on the basis of this level of inspection unless the level of inspection performed is such that it is in full compliance with all dimensional and NDE inspections required under the relevant Special Procedure (listed under 5. Recertification) and results have been verified by Cameron Engineering and QA Representative to enable Certificate issue.

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4. Test and Fix Leaks (SP 1060-05)

This type of repair can be performed at the rig site or remote location by Cameron personnel if the repair involves replacement of OEM manufactured/remanufactured parts, or at a Cameron Approved facility if the repair requires machining or welding operations (remanufacturing) to effect the repair.

Where this type of repair is conducted, the Customer will be issued a Test and Fix Leaks report. The Test and Fix Leaks report will not act or replace the formal 3-5 year Recertification requirement. Pressure testing on completion of the above type of repair would be limited to a maximum of the rated working pressure of the equipment.

5. Recertification (3-5 years typical per API RP 53 17.10.3 and 18.10.3)

Recertification of equipment should be performed in a Cameron approved facility, or as a minimum repair of the items identified as not conforming to drawing specifications should be replaced or repaired at a Cameron approved repair facility. Recertification is typically performed to one of the following Cameron Specifications, but other SPs maybe applicable as determined by Cameron Engineering based on regional or customer requirements.


Special Procedure	Repair level	Comment
SP-1060-01	First Class	
SP-1060-03	First Class	
SP-1060-04 or -09	Working Class	Certification to API specifications not applicable to Working Class repair.
SP-1060-16	Norwegian specific	Cameron can certify compliance with product requirements, but not to Norwegian operating regulations.

Recertification of the product will be performed using the current Bill of Materials, Specifications and Engineering drawing revisions.

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Certificate of Compliance/Conformity

Position Statement – Compliance with API RP 53

This document is in reference to certification of Pressure Control equipment and compliance with API RP 53.

API RP53 is not considered to be an industry standard. It is a Recommended Practice and, as such, is intended to be a guideline, providing advice for operation and maintenance of Well Control and Drilling Equipment. As such, it is not possible to "certify" that any maintenance or inspection of any equipment can be "in compliance with API RP 53".

Re-Certification and or Re-Manufacture of Well Control equipment can be implemented in accordance with the relevant section or annex of API 6A or API 16A, or the Manufacturers written policy and or procedures.

Field inspection and/or repair of Drilling and/or Well Control equipment may be conducted and stated to be "in accordance with the intent of RP 53".

A Certificate of Compliance (CoC) will be issued on completion of the repair of equipment by the Cameron approved facility and this will provide as a minimum the following details:

- Customer Name and PO number,
- Cameron approved facility reference order,
- Equipment Part Number and Serial Number,
- Equipment Description with summary scope of work,
- Cameron SP applicable and repair classification applied.

The Certificate shall also include a statement similar to:


"This is to certify that the specific equipment has been repaired/remanufactured, inspected and tested to meet the requirements of applicable API publications and/or Cameron drawings, documents, specifications, and Contract details current at the time of the repair/remanufacture. All repair process specifications used during the remanufacture have complied with applicable requirements of NACE MR0175 (ISO 15156) and ASME Sections VIII and IX."

The Certificate of Conformance or Compliance will also be dated and signed off as being verified by an authorized Quality Assurance representative. The facility may also endorse the Certificate with the Facility Stamp (if required per the facility's Plant Procedures).

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This Certificate states the condition of the equipment at the time of issue.

September 29, 2008

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 Drilling Systems

 Melvyn F. Whitby
 Director Engineering Technology
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