



International Regulators' Forum Lifting Working Group

IRF Lifting intervention programme Maintenance of lifting equipment Inspection templates

MAINT1 - Strategy for Crane Maintenance
MAINT2 - Crane Pre-Use Checks & In-Service Inspections
MAINT3 - Crane Maintenance Activities
MAINT4 - Thorough Examination & Expert Verification
MAINT5 - Management of Lifting Accessories

Advice on the expected benchmarks and references to appropriate guidance are given in
Guidance on using the IRF lifting inspection templates.

General Guidance on the use of templates	section 3.1
MAINT1 template	section 3.2.1.2
MAINT2 template	section 3.2.1.3
MAINT3 template	section 3.2.1.4
MAINT4 template	section 3.2.1.5
MAINT5 template	section 3.2.1.6



Template MAINT1 (onshore)	STRATEGY FOR CRANE MAINTENANCE
Handbook section 3.2.1.2	
<p>Confirm that the duty holder has appointed a technical authority responsible for maintenance of lifting equipment. Interview the technical authority responsible for crane maintenance and probe to establish the rationale behind the crane maintenance strategy. Discuss how the maintenance strategy takes account of: the crane duty, crane usage, operational experience, maintenance history, and the consequence of failure. Explore the extent to which the crane manufacturer and or a competent authority been consulted.</p>	
<p><i>Supplementary lines of enquiry that may be followed at your discretion to explore the above issues.</i></p> <p><i>Inspect a copy of the maintenance strategy document(s).</i></p> <p><i>Discuss the outcomes of any associated Failure Modes and Effects Analysis (FMEA) and or Failure Mode, Effects and Criticality Analysis (FMECA) studies. How have these influenced the maintenance work orders?</i></p> <p><i>Explore how crane maintenance tasks have been prioritised. Inspect sample work orders for a typical safety critical component such as a hoist or slew bearing. Discuss with the technical authority how these PMRs are reviewed.</i></p> <p><i>Request a copy of the report of the last audit of crane maintenance. Have the recommendations in the audit report been closed out? What was the outcome of the last review of the crane maintenance system?</i></p>	
NOTES	
PUWER Reg 5	

MAINT1 STRATEGY FOR CRANE MAINTENANCE			
Template Response Box			
COUNTRY	DUTY HOLDER	INSTALLATION	DATE
NON COMPLIANCE / MAJOR FAILING	ISOLATED FAILURE / INCOMPLETE SYSTEM	IN COMPLIANCE / OK	NOT EVALUATED
ENFORCEMENT ACTION	NEEDS IMPROVEMENT	MEETS EXPECTATIONS	
Description of any non-compliance issues			
Action taken			
Examples of best practice			



Template MAINT2 (offshore)	CRANE PRE-USE CHECKS & INSPECTIONS
Handbook section 3.2.1.3	
<p>Witness the crane operator carrying out their pre-use checks of the crane. Request the crane operator to test the function of some of the crane safety devices such as upper hoist limits, upper boom travel limits, slew limits.</p> <p>Review a sample of pre-use check sheets to identify any persistent faults or defects that have not been remedied. (i.e. fed back into the maintenance system as a corrective work order)</p> <p><i>Supplementary lines of enquiry that may be followed at your discretion to explore the above issues.</i></p> <p><i>Does the safe load indicator indicate a change in load radius when the boom is raised or lowered?</i></p> <p><i>Verify that the correct load-rating chart for the configuration in use is visible to the crane operator in the crane cab?</i></p>	
NOTES	
PUWER Reg 5 & LOLER Reg 9(3)(b)	

MAINT2 PRE-USE CHECKS & IN-SERVICE INSPECTIONS			
Template Response Box			
COUNTRY	DUTY HOLDER	INSTALLATION	DATE
NON COMPLIANCE / MAJOR FAILING	ISOLATED FAILURE / INCOMPLETE SYSTEM	IN COMPLIANCE / OK	NOT EVALUATED
ENFORCEMENT ACTION	NEEDS IMPROVEMENT	MEETS EXPECTATIONS	
Description of any non-compliance issues			
Action taken			
Examples of best practice			



Template MAINT3 (offshore & onshore)	CRANE MAINTENANCE ACTIVITIES
Handbook section 3.2.1.4	
<p>Meet with the person(s) who carry out maintenance on the crane. Ask them to describe how they decide upon the significance of any defect and / or anomaly found. When would the onshore support team be consulted? When are changes assessed under the 'management of change' process?</p> <p>Request reports of any backlog of crane maintenance. Explore the reasons for the backlog and the safety criticality of delayed items.</p> <p>Probe to find out how decisions are made to justify deferring crane maintenance. When would the technical authority be consulted?</p> <p><i>Supplementary lines of enquiry that may be followed at your discretion to explore the above issues.</i></p> <p><i>Request reports for the level of corrective maintenance compared against planned maintenance activities. Explore if the trend is upward or downward and the reasons why.</i></p> <p><i>Request sample work orders for part of the crane. Discuss whether the work orders provide sufficient information for them to understand what is required. Does the work order provide any acceptance criteria?</i></p> <p><i>How are the results of maintenance checks and tests etc recorded? Is the 'as found' condition recorded?</i></p>	
NOTES	
PUWER Reg 5	

MAINT3 CRANE MAINTENANCE ACTIVITIES			
Template Response Box			
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Action taken			
Examples of best practice			



Template MAINT4 (onshore)	THOROUGH EXAMINATION & EXPERT VERIFICATION
Handbook section 3.2.1.5	
<p>Interview the technical authority responsible for cranes to inspect the arrangements in place for the thorough examination / expert verification of their cranes.</p>	
<p><i>Supplementary lines of enquiry that may be followed at your discretion to explore the above issues.</i></p> <p><i>What factors influenced the duty holder's assessment and selection of the independent third party organisation responsible for thorough examination / verification of the cranes.</i></p> <p><i>Inspect a copy of the scheme of thorough examination.</i></p> <p><i>Request copies of recent reports of thorough examination. Establish how recommendations made by the competent person in their report of examination are closed out.</i></p> <p><i>How are findings of the thorough examinations fed back into the maintenance system?</i></p> <p><i>Is a formal "Enterprise of competence" scheme in place or has it been considered?</i></p>	
NOTES	
LOLER Reg 9	

MAINT4 THOROUGH EXAMINATION & EXPERT VERIFICATION Template Response Box			
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Description of any non-compliance issues			
Action taken			
Examples of best practice			



Template MAINT5 (offshore)	MANAGEMENT OF LIFTING ACCESSORIES
Handbook section 3.2.1.6	
<p>Confirm that the duty holder has a documented process in place for certification and control of lifting accessories?</p> <p><i>Supplementary lines of enquiry that may be followed at your discretion to explore the above issues.</i></p> <p><i>Certification</i> For a sample of lifting accessories, request copies of the certification (e.g. EC Declaration of Conformity / test certificates) provided by the manufacturer / supplier.</p> <p><i>For a sample of lifting accessories, establish when they were last thoroughly examined (colour coding, certificates of thorough examination). Is the safe working load clearly marked on each accessory?</i></p> <p><i>Control of lifting accessories</i> Inspect the rigging loft to assess how lifting accessories are stored. Examine the condition of a sample of lifting accessories. Are they free from obvious visual defects that would lead to discard?</p> <p><i>Explore who has access to the loft and the procedures for issuing and returning lifting accessories. How is the condition of the lifting accessories checked prior to use? Explore the arrangements for quarantining accessories.</i></p> <p><i>Enquire if there are any other lifting accessories on the installation that are not under the control of the rigging loft. If so, how they controlled?</i></p>	
NOTES	
SoM(S)R12 LOLER Reg 9(1) LOLER Reg 9(3)	

MAINT5		MANAGEMENT OF LIFTING ACCESSORIES	
Template Response Box			
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Action taken			
Examples of best practice			