

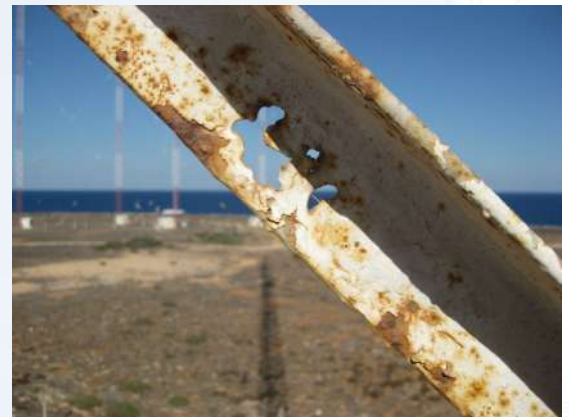
Planned Preventative Maintenance (PPM)

Towers and guyed masts provide vital services for :

- Broadcasting
- Mobile, microwave and other communications' networks
- Radar and surveillance.

Hazards include :

- Overload and collapse caused by additional antennae
- Overload and collapse caused by high winds and/or thick ice
- Collapse caused by corrosion (long service/aggressive environment)
- Collapse caused by inadequate inspection and maintenance (e.g. guys not re-tensioned)
- Structural responses/instabilities causing signal interference
- Working at height.



Responsible owners and operators of masts and towers seek to :

- Protect their personnel, and also any passers-by/site-neighbours
- Avoid loss of service caused by structural failure or collapse
- Avoid unscheduled clearance and reconstruction costs.



JAGGARD

Global leaders in broadcast and communications infrastructure

Planned Preventative Maintenance (PPM)

Jaggard are pleased to offer a comprehensive Planned Preventive Maintenance service wholly focused on towers, guyed masts and antennae.

SAFEGUARD THE ASSET

A Jaggard Condition Survey will assist the Owner/Operator to :

- Improve safety for all personnel working on the structure
- Prevent corrosion failure and structural collapse
- Identify rogue structural modifications
- Ensure continued service/operations.

It will also deliver a payload inventory (antennae etc.) which the Customer can compare against their own records.

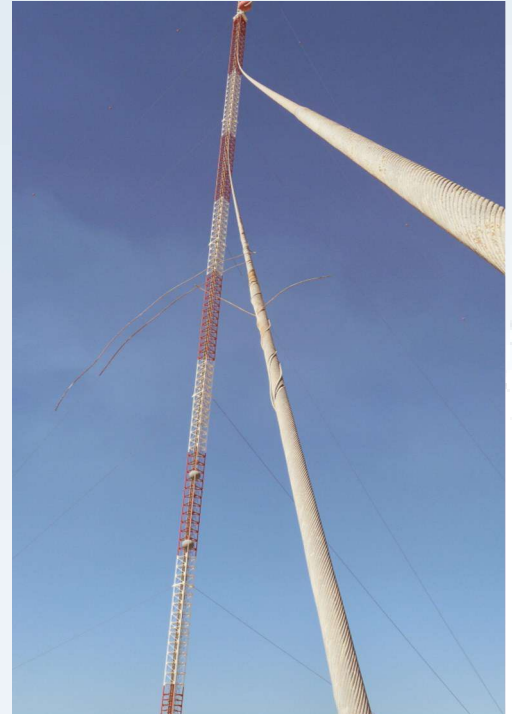
DEVELOP THE ASSET

A Jaggard Structural Survey & Analysis will provide a structural assessment which will :

- Establish structural integrity under the current loading
- Establish if additional antennae etc. can be supported
- Identify if elements require replacement or strengthening
- Prepare for a new radar or radome platform.

JAGGARD SERVICES' ASSET MANAGEMENT

- Condition Surveys
- Inspection and Maintenance
- Loading Surveys
- Structural Surveys
- Structural Analyses
- Re-engineering.



Broken guy wire strands



Broken guy wire strands



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JAGGARD CONDITION SURVEY

The key objectives of each Jaggard Condition Survey are to establish if the structure is :

- Safe to access?
- If other, specialist, inspection methods are necessary?
- If there are indications of potential failure/collapse?
- If maintenance/repairs etc. are required before next survey?

A Jaggard Condition Survey includes visual inspections of :

- Access (user safety and structural integrity)
- Primary structure (structural integrity)
- Antennae and feeders (general condition and security)
- Lightning protection (general condition and security)

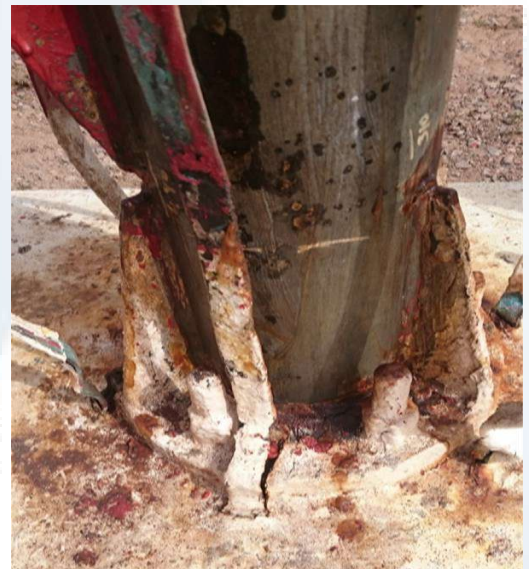
A Jaggard Condition Survey will deliver a report including recommendations for maintenance and subsequent inspection. Where appropriate, a "Safe to Climb" certificate will be issued.



Heavy rust on coastal structures



Corroded bracing



Heavily corroded stubs



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THE JAGGARD STRUCTURAL ASSESSMENT

A Jaggard Structure and Loading Survey will :

- Measure structural arrangements (panel sizes and bracing patterns etc.)
- Measure legs and bracings and any other key members (section sizes and connection details)
- Assess profiles of ancillaries e.g. antennae, stairs, ladder (for evaluating mass and wind load).

A Jaggard Structural Analysis will :

- Analyse loads acting on the structure (weight, wind, ice etc.)
- Perform a loading analysis and strength assessment of the primary structural steelwork (note however that assessment of anchorages and foundations requires reliable construction drawings and geotechnical data)
- Identify any need for member strengthening or replacement.



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JAGGARD STRUCTURAL DESIGN and ANALYSIS for RE-ENGINEERING

A Jaggard Structural Design and Analysis for re-engineering will :

- Measure the interface e.g. for a new radar or introduction of a radome
- Design and analyse the re-engineering works
- Draught the re-engineering works.



Heavy rust on coastal structures



Heavy rust on coastal structures

FABRICATION & INSTALLATION

- Fabrication and installation of replacement or strengthening steelwork
- Fabrication and installation of new interface steel (e.g. to receive new antennae/equipment)
- Supply and installation of new mast guy ropes & fittings
- Guy re-tensioning
- Strengthening of foundations
- Installation of customer-furnished antennae/equipment
- Upgrade of the lightning protection system
- Upgrade of AWL systems e.g. to ICAO recommendations.



Cracked concrete due to rust expansion on anchor plate



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MAINTENANCE

Jaggard Maintenance can include :

- Sample checking/tightening of primary connections' bolts
- Sample checking/tightening of accessways, secondary connections and ancillaries' bolts
- Treatment of lightly-corroded items
- Replacement of heavily-corroded items
- Maintenance of aircraft warning lights
- Concrete repair and grout packing
- Re-tensioning and re-greasing of mast guy ropes
- Re-painting to ICAO recommendations
- Re-painting to improve residual corrosion protection.



Rust on main halyard chains



Heavy rust on access platform



Overloaded structure

Jaggard personnel collectively have over 100 years of experience of surveying, maintaining and re-engineering masts, towers and their associated antennae.

CONTACT DETAILS

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