



SAFETY ALERT PART A, B & C

Subject: Havequick Towers – Damaged Antennae

Number: SA 2017/03

DIO SEE Sponsor: Bryan Dunn

Date of issue: 3 April 2017

Contact if different from above Sponsor:

Tim Lord
Engineering & Construction
Defence Infrastructure Organisation
Kingston Road, Sutton Coldfield, West Midlands, B75 7RL
Tel: 94421 2005 / 0121 311 2005.
Email: DIOSEE-EngStructuralAH@mod.uk

Who Should Read this:

1. DIO Service Manager (or equivalent for non NGEN contracts)
2. DIO's Maintenance Management Organisations
3. Others

Others interested in the content of this Safety Alert might include:

Top Level Budget Holders, Prime Contractors, Private Finance Initiatives, Public, Private Partnership and other traditionally procured contracts; Project Managers, Infrastructure Managers, and Property Managers with responsibility for MoD projects and Property Management Works Services (including the legacy work of EWCs/WSMs), Coordinating Authorising Engineers, Heads of Establishment and Health & Safety Advisors., Authorising Engineers, Authorised Persons, and owners or Havequick antennae.

This Safety Alert does not necessarily cover all aspects of the subject matter and readers should make themselves aware of other potential issues. Readers should also not rely on DIO Safety Alerts as their only means of becoming aware of safety issues, but they should consult widely across other media to maintain awareness.

When it takes effect: immediately

When it is due to expire: When updated or rescinded.

Aim

1. To bring to the attention of appropriate persons that some Havequick antennae are suffering from cracking which could lead to more significant failure thereby causing damage, serious injury or fatality.

Introduction

2. Compliance with the contents of this Alert will enable compliance with the Health & Safety At Work etc Act 1974 and its subordinate Regulations.
3. The appropriate MOD officer shall arrange for the Maintenance Management Organisation (MMO) contractor to carry out all actions in accordance with this Alert.
4. Contractors and MMOs are to keep informed the establishment Health, Safety and Environmental Protection Adviser and 4Cs Duty Holder on behalf of the Head of Establishment regarding progress of actions required of this Safety Alert.
5. Any work required as a result of this Safety Alert must be carried out in accordance with JSP 375.
6. On MOD Establishments occupied by United States Visiting Forces (USVF), responsibility is jointly held by USVF and DIO(USF). At base level this jointly managed organisation is to take appropriate action to implement the contents of this Alert. Where this Alert contains procedures which differ significantly from USVF practice, DIO (USF) code of practice will be issued.

Background

7. Recent Havequick tower inspections have identified some significant cracking in the ageing 7m GRP antenna, which is at risk of propagating to a complete failure, as shown in the photographs below. The total height of the combined structure is 15m, comprising a 7m antenna on an 8m steel lattice tower. At the time of writing, there are no known significant issues with the steel towers.



8. Aquila, the contractor responsible for the antennae fitted to the lattice tower, have issued an action instruction (ref. PWI/Radio/Ground/Aquila/ 001/17).
9. The MMO is responsible for inspecting and maintaining the tower structure, for controlling access to the tower and the assessment of proposed safe systems of work prior to issuing permits to climb or lower the structure. Carillion Amey have issued Bulletin 017-102.

Requirement

Part A

10. To ensure compliance with the Workplace (Health Safety & Welfare) Regulations 1992 and the Provision and Use of Work Equipment Regulations 1998 (PUWER), structures are to be managed and maintained in an adequate condition to ensure they are safe and that a safe place of work exists on and around the structures.
11. Appropriate precautions are required to ensure the Havequick towers do not present a serious risk to personnel or other adjacent property and infrastructure, thus:
 - (a) The DIO Service Delivery Manager is advised to direct the MMO to:
 - (i) Confirm that existing structures on an establishment are on the DIO asset register and that appropriate demarcations in place.
 - (ii) Confirm that for existing structures inspection records include R8 certificates which log the condition of structures and ensure that the equipment owner is aware of any defects found.
 - (iii) Confirm that until the antenna is declared safe, the area around has been cordoned off; it is recommended that an area at least a 15m radius is established, with appropriate warning signage. In some instances Aquila, 90SU or other RAF site personnel may have already established this safety area.
 - (iv) Cooperate with Aquila to facilitate any requests to climb or lower the tower to complete required actions.
 - (v) The AP(Working at Height) shall not permit climbing on the structure until it is deemed safe except where related to inspection and repairs to make good the antenna.
 - (b) Aquila have already issued an instruction to inspect the antennae and make good (ref. PWI/Radio/Ground/Aquila/001/17). These inspections are ongoing.
 - (c) Aquila are requested to keep the MMO informed as to the status of the antenna condition and to confirm when it is deemed safe.
 - (d) Where deemed safe, the usual maintenance regime should continue. This is detailed in DIO Hard FM Standards & Tasks, PG 09/08 & PG 10/08 along with the antenna owners' programme of maintenance.
 - (e) Through the respective DIO Service Delivery Manager, the MMO is to confirm the status of each Havequick structure to the DIO Service Delivery Performance Management Team – DIO SD-Perf Mgt Team (MULTIUSER) account, advising which antennae have defects in need of remedial action and which are safe. Pending information from Aquila, this has a target date of 30 April 2017.

Part B

12. Where cracks or other defects are found, the antenna owners need to:

- (a) Make the antennae safe which may require dismantling. Whilst the structure is lowerable it must only be lowered once a safe system of work (SSOW) is developed supported by a suitable and sufficient risk assessment and method statement. Preparation of these is the responsibility of the antenna owner and should be submitted to the MMO for permit purposes. Although there are obvious hazards to lowering a defective structure, this may be the only practicable means of dismantling for which appropriate precautions are required to ensure a SSOW.
- (b) Keep the MMO informed as to the status of the antenna condition and confirm when it is deemed safe.

13. The MMO shall update the H&S file and structure information records.

Part C

14. On completion of any remedial works, the MMO is to notify:

- (a) The establishment Health, Safety and Environmental Protection Adviser and the Head of Establishments' 4Cs Duty Holder or his representative.
- (b) The DIO Service Delivery Performance Management Team – DIO SD-Perf Mgt Team (MULTIUSER) account, through the respective DIO Service Delivery Manager, of the date when the installation was confirmed as being adequate and safe with up-to-date inspection records.

Supporting information

15. Havequick radio antennae are primarily owned and maintained by the Air Defence and Electronic Warfare Systems team (ADEWS), 90SU(RAF) or Aquila through the Project Marshall contract.

16. The 15m height comprises an 8m high steel lattice tower forming the main supporting structure on top of which is fitted a 7m composite GRP antenna that encases the antenna.

17., GRP is prone to an ageing process that may cause deterioration of the material including fatigue cracking and material creep under load. These antennae are also in exposed locations making them subject to repeated cyclical loading and vibration that can accelerate or exacerbate the deterioration process and make ageing antennae potentially susceptible to unexpected failure.

18. The tower is climbable, but because of the antenna size, the whole structure is lowered for antenna maintenance purposes. The Lifting Operations & Lifting Equipment Regulations (LOLER) apply. The lowering process (known as the falling derrick method) involves attaching a hinge and winch system that are not retained at the structure but are re-used on other Havequick towers. The process also requires partial dismantling of the tower structure at low level; and must only be undertaken by a trained team of suitably qualified and experienced people. Refer to para 12(a).

19. The lowering process employs concrete anchor blocks cast into the ground at up to 15m distance from the structure, and these require satisfactory current condition inspection certificates to be in place along with safe working load certificates.

20. This situation may prevail at any Havequick tower, of which there are believed to be a total of 22no. installed across the following UK sites:

Benbecula	- 2no.
Boulmer	- 3no.
Buchan	- 3no.
Neatishead	- 3no.
Portreath	- 2no.
Saxa Vord	- 2no.
Staxton Wold	- 2no.
Swingate	- 3no.
Valley	- 2no.