RP 005 INSPECTION & TESTING OF HELIDECK PERIMETER SAFETY NETS

1. PURPOSE

This Technical Recommended Practice provides an overview of the requirements for the ongoing inspection and testing requirements referred to within CAP 437 - Standards for offshore helicopter landing areas.

2. OVERVIEW

Helideck Perimeter Net Systems may be installed with a manufacturer warranty of up to 10 years. In addition, newly manufactured perimeter nets should have an initial test load of 125 kg x a safety factor of 6. The 125kg initial load may change due to the increasing average weight of offshore personnel. However, there are various factors that may reduce the performance or lifespan of the Helideck Perimeter Net due to the unique environments that many helidecks are exposed to. Therefore, it is critical that a suitable interim inspection and testing regime is established to ensure that the Helideck Perimeter Net will function safely at all times.

Interim inspection and testing regimes are typically split into the following three areas:

- Regular Checks
- Formal Inspections
- Net Testing

3. REGULAR CHECKS

Due to the potential for wear and tear between formal inspections, a visual inspection of the Helideck Perimeter Net System should form part of the daily checks carried out by the HLO. Particular attention should be paid to the attachment of the net to the supporting framework as this is a common point of failure. Other specific aspects of the inspection process would be covered in the syllabus of any perimeter net inspection awareness training course.

Any HLO's conducting daily/weekly checks of the Helideck Perimeter Net System should have an appropriate level of awareness training in the inspection requirements.

Evidence of regular checks should be produced for the HCA on request.

4. FORMAL INSPECTIONS

Independent formal inspections should be conducted annually in line with BS EN 1263-1, BS EN 1263-2 and relevant Helideck Perimeter Net manufacturer guidance. Independent formal inspections should be carried out by suitably trained and competent persons.

To assist in the formal inspections, each panel making up the Helideck Perimeter Net System should have a unique serial number attached on a weatherproof and tamperproof tag or plate.

Independent formal inspections should take into consideration the following parts of the Helideck Perimeter Net System:

- Supporting Structure
- Support Frame & Attachment Points
- Netting

Supporting Structure:
Due to the difficulty of assessing the effects of corrosion visually, helideck operators must ensure that a process is in place for a competent authority to carry out on-going assessments to ensure the suitability of the supporting structure. Any identified concerns should be raised with the Structural Technical Authority for consideration.

Support Frame & Attachment Points:
As a main point of failure in a Perimeter Net System, the attachment of the net to the supporting framework must be included within the formal inspection routine.

Netting:
Specific guidance on the requirements for Net Testing is presented in section 5 below.

All reports relating to formal inspections conducted on the Helideck Perimeter Net System must be made available to HCA.

5. NET TESTING

In addition to annual formal Inspections on the whole Helideck Perimeter Net System, the strength of the net itself must be assessed. This is carried out with the use of sacrificial panels or strips of net. It is essential that the sacrificial panels or strips are installed or attached to the helideck net or in a position where they are subjected to the same climatic and weather environment and are sent to the helideck perimeter net manufacturer or independent onshore testing facility annually for testing.

Note: Should sacrificial panels or strips be left in a store or similar location they will not be subjected to the same environmental conditions as the perimeter net and, if used for testing, will yield unrepresentative test results.

There are three types of testing available for nets. These are:

- Drop Testing
- Tensile Testing - Proof Test
- Tensile Testing - Ultimate Tensile Test

Reports from all types of testing must be made available to HCA during inspections if requested.

Tensile Testing - Proof Test:
The proof test involves sending a sacrificial strip of netting to an onshore testing facility annually. A calibrated force equivalent to 250 kg or helideck perimeter net manufacturer requirements, is applied to the strip to ensure that it can withstand the required load.

A test report containing a description of the material specification, test protocol, test results and qualification will be issued. This report should be provided to HCA on request.

Tensile Testing - Ultimate Tensile Test:

As for the proof test, the ultimate tensile test involves sending a sacrificial strip of netting to an onshore testing facility annually. The ultimate tensile test differs in that the force applied is increased until the sacrificial strip fails.

The ultimate tensile test is the preferred method for testing a netting system as, over time, a forecast of the netting systems expected performance and lifespan can be derived by comparison with helideck perimeter net manufacturer data.

A test report containing a description of the material specification, test protocol, test results, remaining life and certification will be issued. This report should be provided to HCA on request.

Drop Testing:

Drop testing is not the preferred method for testing the structural integrity of nets. However, if drop testing it to be conducted, then this must be carried out by sending a sacrificial panel to an onshore testing facility. By using an onshore testing facility, consistency can be ensured by using a calibrated mass (250 kg - 125 kg x Safety Factor of 2) being dropped from a 1 m height. Drop testing performed on the installation will not be accepted by HCA.

Note: If a functional section of netting is used, drop testing may cause damage and result in helideck operating limitations.

Drop testing provides pass/fail results valid at the time the test was conducted. No information relating to the future lifespan or degradation of the net can be derived. If the test fails on the sacrificial panel, then the complete net is classed as having failed. This could lead to limitations being placed on the helideck which could severely affect helicopter operations.

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