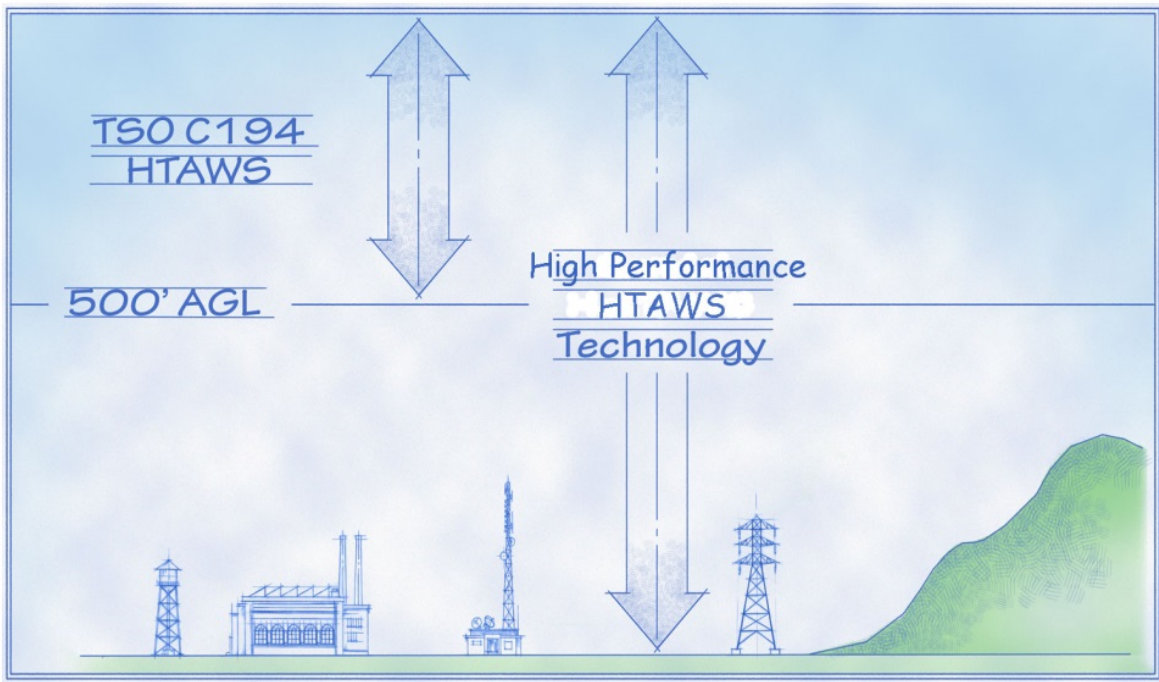


Helicopter Terrain Awareness & Warning System (HTAWS) Guide

Not all HTAWS are created equal. This is true of any product, but when it comes to HTAWS in your aircraft the differences can be critical to life and death. Before you buy, be sure you understand the differences between each HTAWS on the market today.

FAA TSO C194 MOPS

FAA TSO-C194 Helicopter Terrain Awareness and Warning Systems (HTAWS) and RTCA DO-309 Minimum Operational Performance Standards (MOPS) for HTAWS provide the initial compilation of requirements for an HTAWS— mainly during the cruise phase of flight. The minimum MOPS requirements only cover helicopter operations 500' AGL or above. What about operations under 500' AGL? If you operate below 500' AGL, you want to consider a high-performance HTAWS that is built for EMS, Law Enforcement, Oil Rig, and Fire & Rescue.

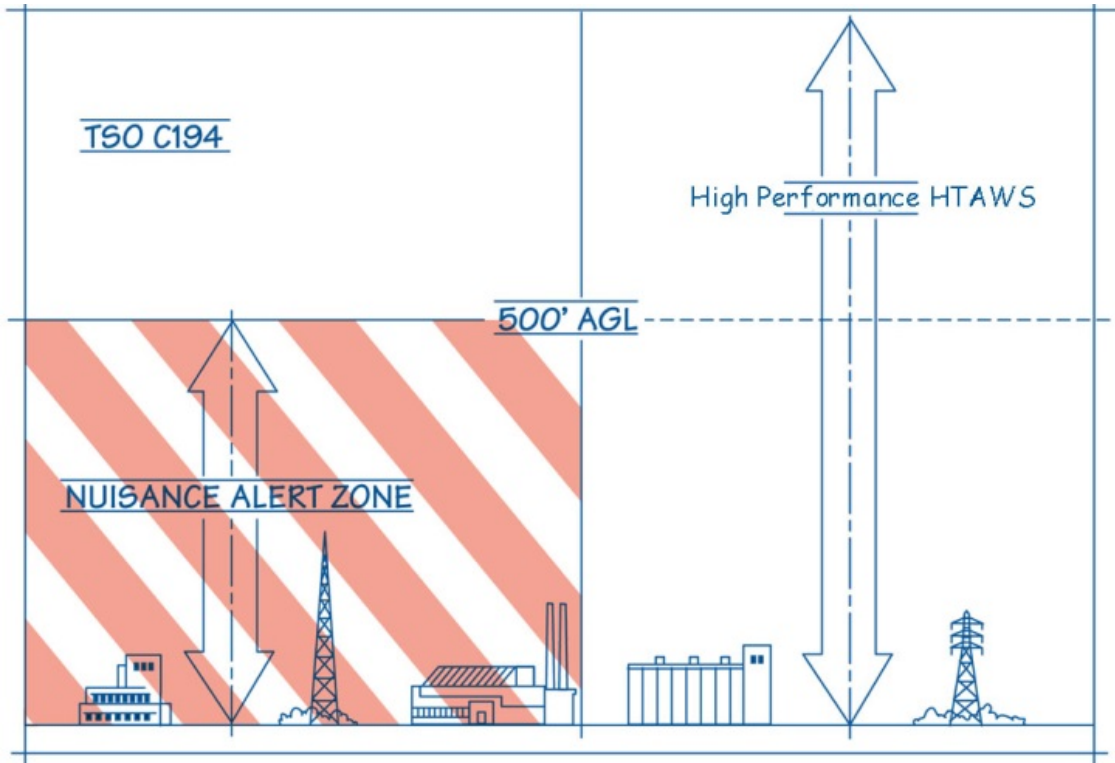


The FAA TSO C194 Minimum MOPS requirement only covers helicopter operations 500' AGL or above.

FALSE/NUISANCE ALERTS

The FAA defines a False Alert as—A warning or caution that occurs when the designed terrain or obstacle warning or caution threshold of the system is not exceeded, and a Nuisance Alert as—An alert that occurs when there is no threat or is unnecessary for the intended operation.¹

Studies show that pilots will turn a system off or ignore it, if it causes nuisance alerts. Look for a HTAWS that has alerting algorithms that eliminate nuisance alerts. Ask how the HTAWS algorithms adapt to the pilot and mission.

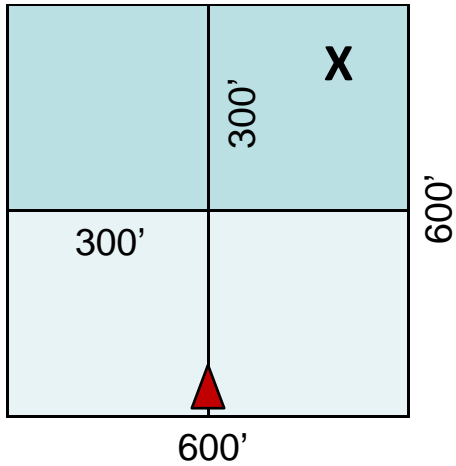


A safety system that constantly sets off nuisance alerts may be worse than no safety system at all.

¹ FAA Proposed Changes, AC-27-1A and AC-29-2B. Chapter 3, Airworthiness Standards Normal Category Rotorcraft, Miscellaneous Guide, d. Definitions. 2012

OBSTACLES & TERRAIN

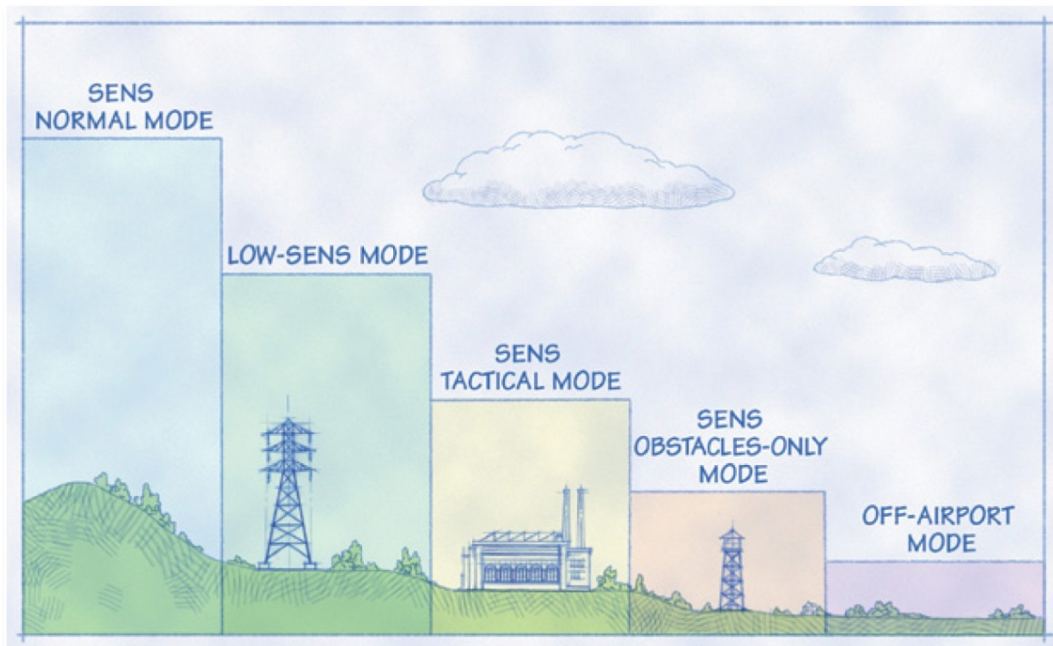
Good data in, good data out. High precision terrain and separate databases for obstacles and wires are key factors in reducing the opportunities for false alerts and improving pilot confidence in the utility of high-performance HTAWS.



The diagram above shows how a high-performance HTAWS uses a grid 25 times smaller utilizing 3 arc-second data vs. 6 arc-second data. Instead of alerting on the object (X) as soon as it appears within the grid of four (600'x600'), a superior system will recognize the position of the aircraft relative to the object at a greater degree and only alert on the object when it is truly a threat to the aircraft.

MISSION SENSITIVE/PILOT SELECTABLE MODES

Since helicopters fly, maneuver, and land in non-designated areas; pilots need a HTAWS that gives them pilot-selectable modes and alerting sensitivity. This allows the system to provide warnings without nuisance alerts.



TRANSMISSION LINES

There are two fundamentally different technologies for determining where wires are located. One involves sensing the presence of the electric field surrounding operating power lines. The second involves a database of wire locations. The database option provides a number of advantages, most important of which is that the alerting will operate whether the power line is energized or not. Only one HTAWS on the market today has a full wire database available—Sandel HeliTAWS®.



Sandel HeliTAWS® with WireWatch®—a data base driven wire warning system—shown here with terrain and wire alerting on a 3 ATIS display.

SANDEL

To learn more about Sandel HeliTAWS® please contact us at 1-424-23-HTAWS (48297) or email us at info@sandel.com. You can also visit us at www.sandel.com.