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SAFETYWIRE

Update: SMS for Part 145 Repair Stations With EASA Approval

(**Source:** Business Aviation Insider, March/April 2026)

Photo © Williamson Images

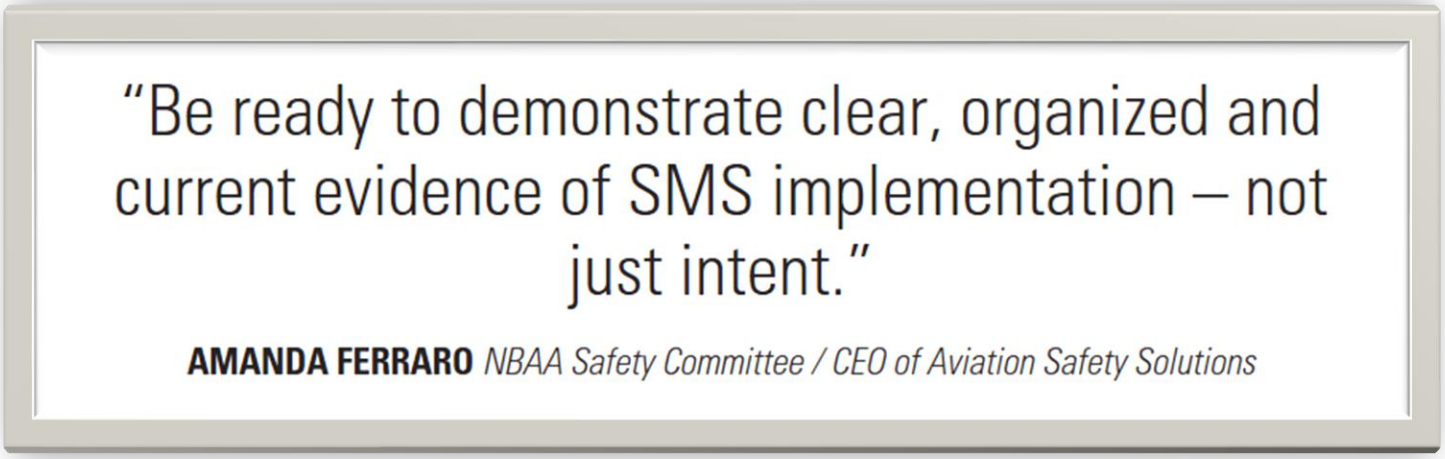
U.S. Part 145 Repair Stations with European Union Aviation Safety Agency (EASA) approval were required to fully implement their safety management systems (SMS) by Dec. 31, 2025, meaning the deadline has passed. Now the focus is on demonstrated effectiveness. Regulators are no longer looking at plans, they're evaluating performance.

Commitment

Failure to have a fully developed SMS program may incur findings or lead to revocation of EASA approval during:

- EASA oversight activities
- FAA surveillance

- This falls in line with all other aviation compliance issues: Say what you will do, then do what you say.



Key to Success: Recordkeeping

The difference between SMS success and failure could come down to recordkeeping, evidence of implementation and attention to detail. NBAA Safety Committee member Amanda Ferraro, CEO of Aviation Safety Solutions, offered a word of advice to those in the early stages of SMS: "Be ready to demonstrate clear, organized and current evidence of SMS implementation – not just intent.

Organizations should be prepared to show how SMS is being implemented in practice, consistent with the documented processes and procedures. In other words, all SMS components should be review-ready for oversight by FAA or EASA authorities," she said. The core SMS documentation consists of the SMS manual, integrated with Part 145 procedures.

Safety reporting initiates the safety risk management (SRM) process. Reported hazards are reviewed, documented and assessed for risk severity and likelihood using the approved methodology. Then mitigations are implemented, tracked and verified for effectiveness. Once risks are assessed and mitigations are implemented through SRM, the safety assurance process verifies that those mitigations are working as intended. Internal audits of operations serve as a key safety assurance tool, providing a structured and planned method to evaluate compliance with procedures, effectiveness of risk controls, and consistency of operational execution.

Training and qualification records support SMS effectiveness and regulatory compliance. SMS training should be role-based and documented so maintenance personnel, supervisors and management understand their SMS responsibilities.

Internal auditor records should verify qualifications, competency and independence through documented training and certificates. Emergency response preparedness (ERP) training records should demonstrate that employees understand their emergency roles and that leadership is qualified to manage crisis response, coordination, and communication.

ERP supports operational resilience. ERP exercise records should document exercises conducted, after-action reports, lessons learned and follow-up actions. Exercises should also include relevant external partners to validate coordination, communication and response capabilities.

It's Mission Critical

Repair stations should shift their mindset from "meeting the rule" to using SMS as a management tool.

Jet Logistics Inc. President and Director of Operations W. Ashley Smith understands the importance of SMS. He offers the following advice to other 145s: "The concepts are simple. The execution is simple. You don't need to spend huge sums of money on expensive and elaborate software solutions," Smith said.

SMS is no longer a "nice thing to have." It's mission critical. EASA has made it clear that non-compliance with referenced requirements can lead to revocation of the EASA 145 approval.

Review NBAA resources for safety management systems at nbaa.org/sms.

Shift work and fatigue: how to manipulate your sleep habits to boost performance

(**Source:** Jen Boyer, Vertical Plus, January 6, 2026)

It's a fact of life for aviation maintenance technicians, helicopter EMS pilots and crew members, and a host of other rotorcraft professionals: at some point, or even quite regularly, you will work shifts outside of a regular daytime schedule. In some cases, it could mean working all night.

As a result, you will experience degraded performance.

"When people say, 'I'm a night owl,' that is fallacy," said Dr. Scott Shappell, professor and chair of Embry-Riddle Aeronautical University's Department of Human factors and Behavior Neurobiology. "Human performance degrades at night, regardless of how old you are."

Circadian Clock

Shappell, whose considerable experience and research into the psychology of human factors includes fatigue, said the human body's circadian rhythm is the key factor.

Fatigue, he explains, isn't a result of just "being tired." It's your circadian biology working against the mission.

"You have rhythms in your body that cycle on a 24-hour clock," he said. "Virtually everything about you cycles on a circadian cycle, including performance."

Everyone's circadian clock sets itself to the local light-dark cycle. That cycle has a daily peak where performance can be at its highest and a trough where it is the lowest. While exact times for these peaks and troughs can vary slightly by person, research has shown the base of the trough tends to fall between 3 a.m. and 4 a.m. for the vast majority. That means for the several hours before that time, performance is degrading, Shappell explains.

"You may feel like you function better at night, but biologically your performance is still impaired compared to the day," he added. "That performance, unfortunately, degrades the older we get as we do not have as much vigor in our 40s and 50s as we did in our 20s. We simply must be aware of it."

Performance is also affected by when you wake up in the morning. If your alarm is set to wake you during your trough, you have a much higher chance of feeling fatigued throughout the day, he said.

What's more, when you travel, your circadian clock is still on your home time schedule, taking roughly a day and a half per time zone change to catch up when you travel east, Shappell said. Westward travel tends to be easier to catch up, he added, relating it to Daylight Savings Time.

Embry-Riddle Aeronautical University Professor Dr. Scott Shappell. CHC Helicopter Photo

“In North America in the fall, when we basically gain an hour, we’re all fine, but when we have to spring forward an hour in the springtime, everyone hates it and we’re all having a hard time for a day and a half as our bodies catch up,” he said. “That’s kind of like the difference between traveling west versus east.”

He advises people to keep this circadian shift in mind when returning to work after a trip where your body adjusted to a new time zone. Your peak and trough will be off for a few days, so planning recovery days before going back to shift work will help ensure your best performance, he advised.

Accommodating Circadian Rhythms

Helicopters need maintenance at night. HEMS operations don’t stop when the sun goes down. Shift work won’t go away, but by treating degrading performance at night with the same focus as any other risk, operators and their employees can accommodate night work with risk mitigation, Shappell said.

One very successful strategy is implementing a strict checks and balances procedure. For maintenance, this includes performing extra levels of scrutiny on all work completed overnight with second or even third checks of work before it is signed off. Also, Shappell said, having more than one maintenance technician working the shift allows them to check each other’s work in real time, talk through the work, and check in on how the other is doing throughout the night.

Another successful strategy is scheduling around the circadian clock, avoiding the trough whenever possible.

“HEMS operations, for example, have pilots in particular flipping back and forth between 12-hour day and 12-hour night shifts. Exactly when they’re scheduled to start shifts can make all the difference. For instance, a 6 a.m. to 6 p.m. shift may force them to wake at 4 a.m., not an optimal time. But an 8 a.m. to 8 p.m. shift allows them to wake later and further from the trough,” he said.

Having a solid day between changes from day to night shifts also allows people time to rest and reduce fatigue, he added.

How Sleep Affects Performance

Shappell’s research as an aerospace experimental psychologist for the U.S. Navy paired with extensive sleep studies clearly demonstrate human performance degrades the longer you go without enough sleep.

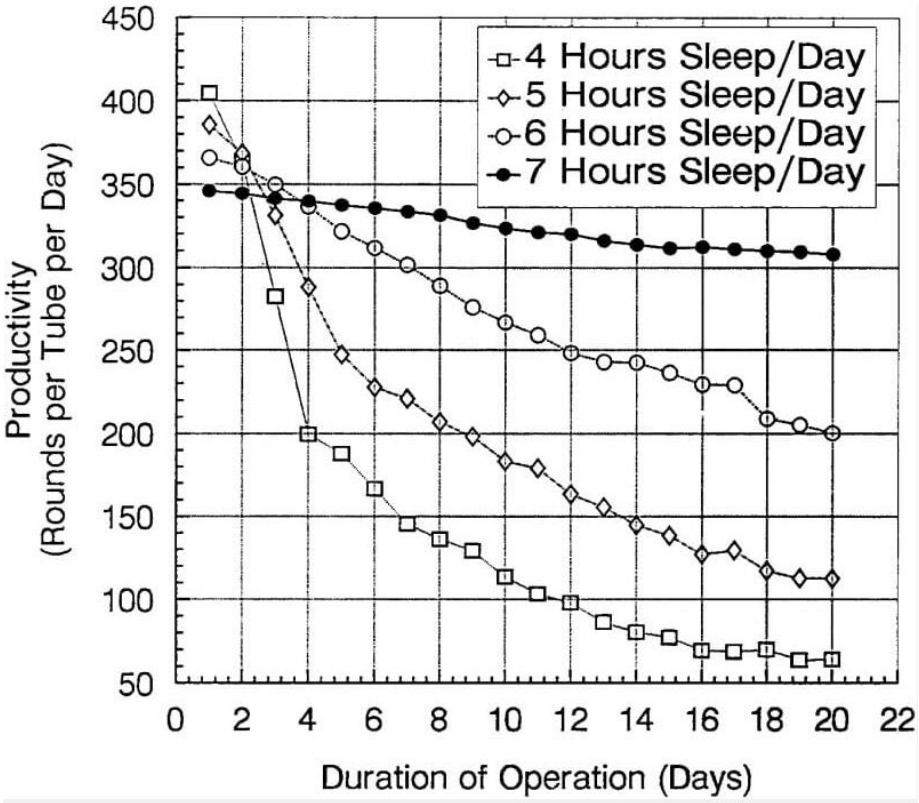


Figure 7-2 in the academic paper “The Effects of Sleep Deprivation on Performance During Continuous Combat Operations”

Shappell referenced several U.S. Army studies where reaction time was tested after subjects slept differing numbers of hours a night over a sustained period of time. In one study, groups of soldiers slept for nine, seven, five, or three hours over three days. The results showed those that slept nine hours performed the highest, with the seven-hour group performing ever so slightly lower by the end of the third day. Those only getting five hours of sleep showed a 25 percent to 30 percent reduction in reaction time to the nine-hour group, while the three-hour group’s reaction time had degraded 65 percent to 70 percent.

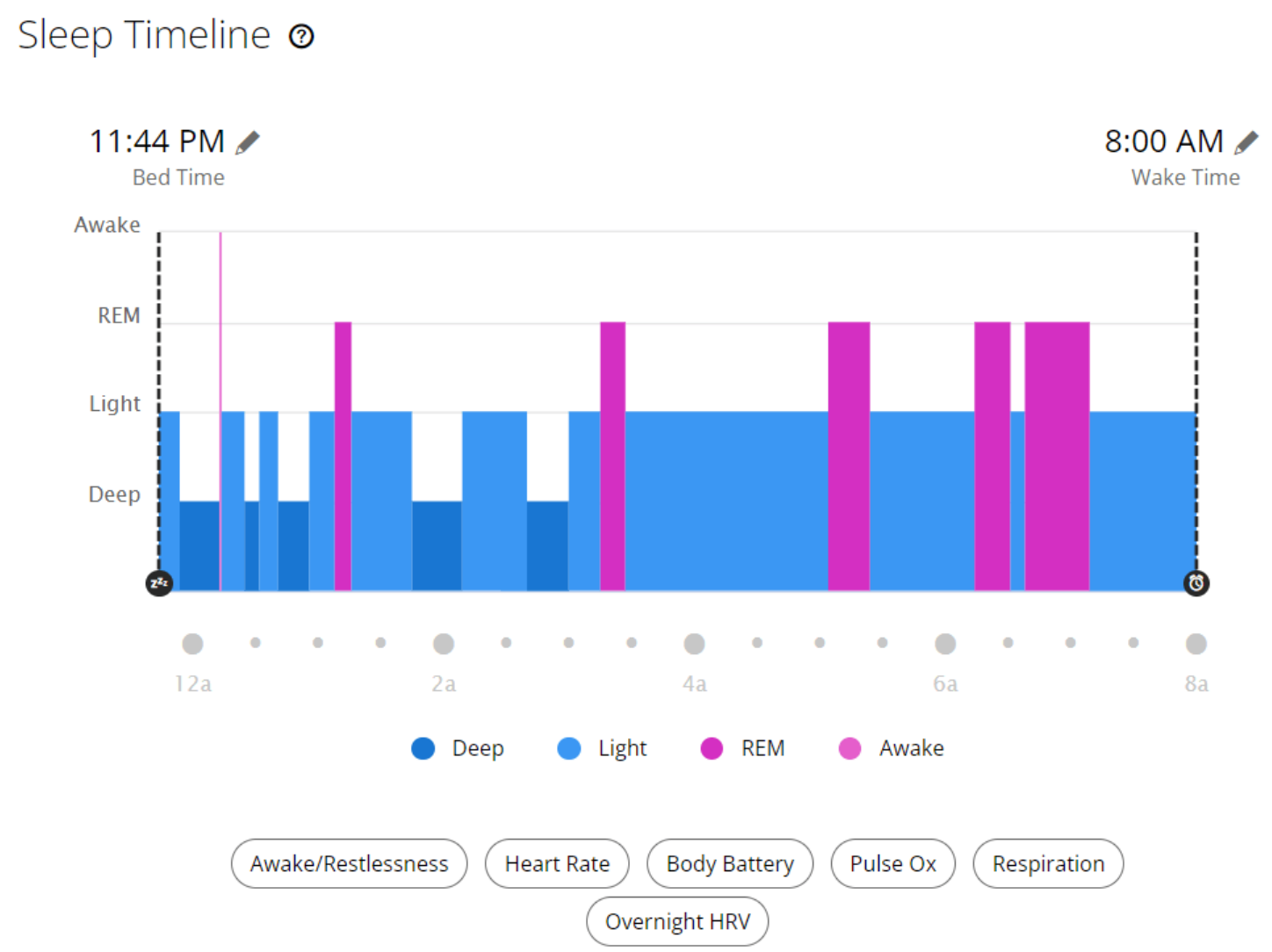
In another study, “The Effects of Sleep Deprivation on Performance During Continuous Combat Operations” (1994), artillery company performance was tested during 21 days of continuous operations at seven, six, five and four hours of sleep every night. Interestingly, all the groups performed higher than the nine-hour group for the first day or so, before dropping off. The seven-hour cohort experienced a roughly 10 percent performance degradation, while the six-, five- and three-hour groups saw significant performance erosion of around 42 percent, 65 percent, and 80 percent consecutively.

“Constant sleep deprivation is serious and can be dangerous,” Shappell warned.

Take Control of your Fatigue

Shappell said when people become aware of their circadian rhythms and their sleep, they can reduce their fatigue and be more successful in their shift work. A big part of that is to aim for quality sleep. He suggests using one of the many tools on the market from apps to smart watches and other wearables that track sleep and pay attention to the data they provide.

“For most adults, you should aim for eight hours of sleep a night, plus or minus 30 minutes. There is no solid science that says you can perform at 100 percent with less than eight hours,” he said.



Example of sleep data gathered from a Garmin watch. Garmin photo.

When reading your sleep data, pay attention to the sleep cycle, which includes deep restorative sleep (the lowest dip that represents stage 3 and 4 sleep), and lighter stage 2 sleep, as well as REM sleep (where you dream), he explained. A full sleep cycle will include all of these and typically takes between an hour and 15 minutes to two hours. When you determine your own sleep cycle length, which is typically gathered as an average after several nights of data collection, do the math to ensure you get as close eight hours and full cycles for optimum performance. Why full cycles?

“Think of how you feel when you wake naturally, which would be after a full cycle, versus waking with an alarm clock from a deep sleep where you feel wrecked,” Shappell said. “Waking naturally is best.”

He also emphasized the importance of sleeping at least the first three cycles every night as that is when you sleep deepest and get the most restorative sleep.

Shappell warned against using medications and alcohol, highlighting while they may get you to sleep, they’ll interrupt your restorative sleep, defeating the purpose. He also warned that melatonin should be taken sparingly as it has been proven that those who take it all the time experience a loss of their own melatonin production.

Strategies for better sleep, other than the constantly emphasized removal of screens from the bedroom, include a warm bath or quick warm shower before bed to raise your temperature, warm milk due to its natural sedative tryptophan, avoiding food before bed, avoiding drinking anything to limit waking to use the bathroom, ensuring you sleep through your circadian trough whenever possible, maintain a constant pre-sleep routine that includes a regular bedtime, and avoiding long naps during the day, Shappell said.

For those that have to sleep during the day to work at night, avoid daylight and screens before bed, darken windows with blackout curtains, and try to maintain a quiet sleep space in addition to maintaining a constant bedtime and bedtime routine, he added.

When fatigue gets to you during the day, Shappell also recommends taking advantage of quick 10- to 15-minute power naps sitting up in a chair. By closing your eyes and breathing deeply for that time in a quiet environment, you can recharge enough to refocus, he said. Avoid putting your head down or laying down completely as you could fall into a deeper sleep which can defeat the purpose, leaving you groggy when you wake.

FAA Ends 'See and Avoid' In Mixed Helicopter Traffic Areas - The FAA has suspended visual separation for helicopters and fixed-wing aircraft in high-traffic airspace.

(**Source:** Amelia Walsh, Edited By: Zach Vasile, AVweb, March 18, 2026)

The Federal Aviation Administration (FAA) is suspending the use of visual separation between helicopters and fixed-wing aircraft in some of the nation's busiest airspace, requiring controllers to instead use radar to maintain standard separation, the agency announced Wednesday.

The change applies to Class B and Class C airspace as well as Terminal Radar Service Areas, where helicopter traffic frequently crosses arrival and departure paths near major airports.

Under the new general notice (GENOT), controllers will no longer rely on pilots to "see and avoid" other aircraft in these environments. Instead, they will actively manage traffic using defined lateral or vertical separation standards.

Federal officials said the move follows a year-long safety review that identified an overreliance on visual separation in high-traffic areas—particularly where helicopter and airline operations intersect.

“Today, we are proactively mitigating risks before they affect the traveling public,” said FAA Administrator Bryan Bedford, noting that recent analysis found the practice contributed to close calls between helicopters and airplanes.

The agency cited a near-conflict between an American Airlines flight and a police helicopter in San Antonio, and a similar event involving a Beechcraft 99 and a helicopter near Hollywood Burbank Airport. In both cases, the aircraft were on converging paths before last-minute evasive maneuvers.

The policy shift comes in the wake of the 2025 midair collision near Ronald Reagan Washington National Airport, which prompted a broader review of mixed helicopter and fixed-wing operations across the National Airspace System.

Transportation Secretary Sean P. Duffy said the agency is continuing to implement reforms following that accident, including the use of data analysis tools to identify risk areas nationwide.

The agency has already implemented similar restrictions in the Washington, D.C., area over the past year, including limits on helicopter routes and expanded use of ADS-B requirements. The new directive effectively extends those safety measures nationwide.

SAFETY MANAGER'S CORNER

SMS Manual Review

Reviewing an SMS manual is essentially divided into two parts: updating any admin data and evaluating the manual's documented processes and procedures as compared against what is actually taking place in the operation from day-to-day. Performing this manual review and update is a key component to maintaining a sound safety management system, keeping the system in a "ready state," matching documentation and actions. Whenever manuals don't match actions, a pitfall just waiting for a big trip sits undetected. When processes or procedures go unfollowed, is it because individuals are unfamiliar with them or disregard them completely because they are unworkable and unrealistic? The time spent taking a "look back" at the past year helps to complete a quick mental GAP analysis, illuminating deviations from documented processes and procedures. Take the next steps and evaluate actions against documented requirements. If change is necessary, involve the right stakeholders and build a better process or better procedures. Use a change management process according to its intended design: to institute effective change. Finish by adding these refined processes and procedures to the SMS manual as a documented revision. If your operation uses a safety committee, then those members should definitely participate in review and approval. Remember, short cuts often point out inefficiencies and can indicate a way forward, so don't dismiss existing deviating actions as simply rogue behavior.

Below is a quick checklist of items to consider while reviewing your SMS manual:

Admin:

- Company Name Correct or has there been a change?
- Accountable Executive name reference correct?
- Safety Official and title reference correct?
- Organizational Chart up to date?
- Cessation details up to date?
- Safety Committee Participants and Chairman reference up to date?
- Risk approver's identified and up to date?
- SMS responsibility's identified and references up to date?
- Safety policy review and comparison to the SMS manual?
- Make sure to document the manual review.

SMS Process Review:

- Hazard identification & reporting process correct and being followed?
- Management of change process correct and being followed?
- Are hazard, event, incident and injury analysis and processing procedures followed and correct?
- Is the risk matrix accurate and being used correctly?
- Are flight and ground risk analysis procedures being followed and correctly documented?
- Has the internal evaluation program (IEP) been documented correctly and procedures followed?
- Is Quality Assurance clearly documented and incorporated throughout the program?
- Are established safety promotion activities effectively communicating information?

If you need help with your SMS Manual, please contact PRISM Support (prism@argus.aero). PRISM has a semi-custom FAA Part 5, IS-BAO, and ARGUS compliant SMS Manual available for purchase.

Quote of the Month

Fortitude is the marshal of thought, the armor of the will, and the fort of reason..

BY: Francis Bacon

Fortitude, defined as the mental and emotional strength in facing difficulty, adversity, danger, or temptation courageously. Quite a powerful word, and one we all wish applied to us during challenging circumstances. Compromise lends tremendous value when utilized appropriately, but in many environments (aviation being one) its application can prove tragic. On Mount Everest fortitude versus compromise waged a tremendous battle during a summit climb in May 1996. The mountaineering expert guide established 1400 as a hard turn around time, regardless of position relative to the summit. Yet when faced with a pleading climber who was only a few hundred feet away from the earth's top and a lifetime goal, the expert guide compromised and broke the turn around time restriction. They achieved summit at 1545, and didn't make the return back to camp, both perishing on the mountain. Quite simply, they broke SOP. Fortitude versus compromise, which deserves the victory?

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