Technician Safety: Drones, Maintenance Robots and Human Interaction Meeting Kit

WHAT’S AT STAKE

Drones and maintenance robots are changing how work gets done, making inspections and tasks faster and more efficient, but they also introduce new risks that are easy to overlook. When humans and automated systems share the same space, even a small mistake, miscommunication, or unexpected movement can lead to serious incidents.

WHAT’S THE DANGER

Working around drones and maintenance robots introduces risks because these systems move, respond, and operate differently than people. When something goes wrong, it can happen quickly and without clear warning.

Unexpected Movement and Loss of Control

Drones and robots can change direction, start, or stop suddenly due to programming, sensor input, or system errors. This can lead to collisions, struck by injuries, or loss of balance if you are too close.

Human and Machine Interaction Risks

When people enter active zones without clear coordination, the risk of contact increases. Robots do not always recognize human intent, which can result in pinch point injuries, entanglement, or being caught between moving parts.

System Failures and Malfunctions

Technical issues such as sensor failure, software errors, or loss

of signal can cause unpredictable behavior. This may result in uncontrolled movement, dropped loads, or equipment operating outside its intended path.

Limited Awareness and Blind Spots

Drones and robots rely on sensors that may not detect everything. Workers can enter blind zones without realizing it, increasing the chance of unexpected contact or collision.

HOW TO PROTECT YOURSELF

Know the System Before You Get Close

Understand how the drone or robot operates before working near it. Know its movement patterns, active zones, and stop procedures so nothing catches you off guard.

Follow Lockout and Safe Stop Procedures

Before maintenance, adjustments, or clearing issues, make sure the system is properly shut down and cannot restart unexpectedly.

Stay Out of Active Zones

Treat robot and drone work areas as controlled spaces. Do not enter unless required and authorized. If you must enter, make sure the system is stopped or placed in a safe mode.

- Follow barriers, markings, and warning signs
- Never step into a moving system’s path
- Keep a safe distance at all times

Make Yourself Seen and Predictable

Sudden or unpredictable movement increases risk. Move deliberately and stay visible to operators and others in the area. Sensors and automation can fail or miss hazards. Always stay alert and assume the system may not detect you.

What to Do If Something Feels Off

If the system behaves unexpectedly, stops responding correctly, or something doesn’t look right, stop work immediately. Move to a safe distance, report the issue, and do not re-enter until it is confirmed safe.

Note: Working around automated systems requires full attention. Distraction increases the chance of stepping into danger without realizing it.

FINAL WORD

Drones and maintenance robots don’t think, they follow commands. That means your safety depends on your awareness, not theirs. One moment of attention is what keeps human and machine interaction safe.