OVERVIEW

A safe robotic system ensures not only the safety of those that work in close proximity of robots but also the test article, surrounding obstructions, and even the robot itself.

SOLUTIONS

There are several types of safety systems available for consideration. Which solution is best suited for your application depends on the working environment and local safety regulations.

GUARANTEE

When purchasing a robotic system from NPM, we will work closely with you to help define the appropriate safety solution that meets your specific needs and facility requirements.

NPM offers five elements of protection

1. Our AMS 2.0 software has the capability to define limits for both physical and virtual axes. During software-controlled movement, the system will halt motion if real-time positioning information detects it has reached a software defined motion limit. However, these software limits can be overridden.

2. Robotic controllers inherently have built-in safety features, including the ability to set travel range limits and "keep out" zones. These limits are independent of the AMS software limits and cannot be overridden. Fanuc's Dual Check Safety (DCS) control architecture is used to set robot travel range limits. Limits are defined during the system design phase and setup by NPM at the time of system installation. Additional information regarding DCS can be found here.

3. When operating robots in close proximity to personnel, a Laser Lidar System should be considered. Lidar (light detection and ranging) uses eye-safe laser beams to perform 3D scanning of an area. It can detect personnel entering unsafe zones and automatically stop motion. This system is independent of the AMS software limits, the robot DCS system, and provides an additional level of protection.

4. An additional level of protection is provided by E-stop buttons and door interlock switches, used to halt motion when activated by personnel.

5. Finally, provided with the system is procedural documentation of appropriate user setup and operational steps to ensure safe operation conditions.

NEXT PHASE MEASUREMENTS