Title: Smartpac 5.3 Gripper Code Change

Site: All sites with installed SmartPac stations

Name: Miguel Arredondo (@arrmigu)

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# Current Problem

## A recordable safety incident that happened from a SmartPac 5.3 machine at AUS2. An AA reached into the machine to remove a P-Slip from blocking a sensor. Once the P-Slip was removed, there was movement within the machine that created impact to the AA's fingers. The SmartPac machine is designed to allow the gripper component inside of the machine to move up, down, and close even while the light curtain is broken. This has been justified in the design since deployment of the machines due to the low force the gripper exerts and guidance from applicable biomechanical limits standards. The low risk of this component led to administrative controls as an appropriate risk reduction measure.

## Business Need

With this recordable injury, the Pack team and ATS (SmartPac Manufacturer) revisited the risk of the gripper component and worked on how to further mitigate any risk of impact. ATS sent a representative to AUS2 to review the machine for any unknown risk, and concluded that it was installed and maintained as designed. ATS also replicated this issue at their facility, and created a code to address the dimensions and the closing actuation of the gripper during a light curtain break.

# Proposed Solution

## Summary Overview

Deploy and install the newly developed PLC code to reduce bag grab position to -0.5 and lock it as so in the PLC so this cannot be changed. The revised distance to the pinch point hazard of the moving gripper to the closest fixed guard would be 1.25". The code will also change the PLC to eliminate the action of gripper closing when the light curtain is broken. This has been tested at ATS.

## Engineering Overview

Goals:

Eliminate the safety hazard related to the gripper actuators on all SmartPac 5.3 stations installed across the North America region by installing the new PLC code developed by ATS.

## Risk

## What are the risks?

Risks are minimal with this application. The software modification will prevent gripper physical exposure to the associate and this actuator will not be activated while the safety light curtain is obstructed.

## How to mitigate those risks

If current PLC code version can be reinstalled in case of any trouble with the new PLC program version.

# Other Options Considered

## List Other Options

The other option is to modify the safety circuit. This option will be more invasive, require 6 hours per SmartPack and accomplishes the same result.

# Expected Outcome

## Define “Success”

Zero safety accidents related to the gripper actuator. The SmartPac machines will continue to function as usual.

## Define “Complete”

All SmartPac 5.3 stations within a building are running the new code available at this MCM.

# Resources

## Labor

Software change: 1 man hour per SmartPac station.

## Parts

No parts will be required to make this correction.