BEST PRACTICE

LOCATION:		**ARTICLE YEAR**	**2024**
ACTIVITY:	**Access & Egress & Working at Height**	**COMPANY:**	**Brett Group**
SUB ACTIVITY:	**N/A**	**COMPANY LOCATION:**	**Brett Landscaping Pocklington**
BEST PRACTICE No:	**BP2240**	**COMPANY TEL:**	**0000**
COUNTRY OF ORIGIN:			

TITLE

Eliminating Live Working during mould changes on automated wet-cast line CMS1 Topic 2 - Highly Commended

ARTICLE

TOPIC 2 - Highly Commended - 202457

Pocklington CMS1 produces wet-cast concrete slabs on a fully automated manufacturing line of 10 chambers, each containing 600 mould carriers. The moulds require periodic removal for cleaning or replacement, with 1 chamber replaced every 2 weeks.

Historically, this was undertaken with part of the enclosure fencing removed to access the production line. The task required.

- An experienced operator manually controlling the line
- A Person in Charge (PIC) at fence line, in sight of operator, confirming all personnel clear, who directed the operator.
- At least 1 other who removes the 3 moulds and replaces before retreating clear of the manufacturing line.

Once all personnel confirmed clear, the PIC would signal for a further carriers to be advanced, repeated 200 times, over an 8-hour period to change a single chamber.

This process relied on the concentration of the whole team to prevent Contact with Moving Machinery (Fatal 6) and was controlled under a Live Working Permit. To reduce the risk of concentration errors, the SSOW required dedicated breaks every 90 mins.

A serious incident occured at a site when a clam shell door, that could be operated manually despite the rest of the press being isolated, closed onto the fingers of an operative. A business wide review of all live working activities was undertaken. The live working replacement of moulds on the CMS1 line was identified as an activity that could be eliminated.

It was agreed a Light Curtain could be added inside the current enclosure fence line. This would automatically stop the production line and hold it until reset using the Safety Programmable Logic Controller (PLC) to disconnect power to the line when the light curtain was broken. The new light curtain was installed by SMART CI Group, together with a lockable hinged gate to allow access to the production line, and then integrated into the Safety PLC.

An emergency stop button is located on the outside of the gate and the light curtain reset is located c 2m away from the gate, so it cannot be operated from inside light curtain area

Please see additional pdf for details of the design process

Benefits

- The process for changing moulds can now be undertaken by one person, though it is generally undertaken by 2 people. The modifications reflect the MPA H&S value of high-quality implementation having involved the site team to develop the solution.
- The installation of the light curtain which disconnects power to the production line when broken, has eliminated all live working to change the moulds on the production line. As a result, the process is no longer reliant on the concentration, effective communication, and safe behaviours of all the personnel involved to prevent contact with moving machinery.

ARTICLE IMAGES