

DP World Southampton - Safe Padding Area

safe fitting/removal of twist lock ('pinning') ops

the challenge

At many ports around the world, the activity of "pinning" is undertaken under the legs of the crane, pinning has been done in this way for the past 50 years. The process involves the fitting or removal of twistlocks for all containers that are to be loaded on deck, to lock the containers into position during sea carriage.

The area where this is carried out is most common directly underneath the operating quay cranes that are loading and discharging the containers, including the weight of the spreader these can have a combined weight of up to 65mt, sadly there have been many examples globally of crushing incidents with personnel carrying out these duties. The area is often also in the path of port vehicles, in Southampton this includes straddle carriers where the driver is in an elevated driving position at the top of the machine, 13m above the ground, where the view of personnel below can be obscured.

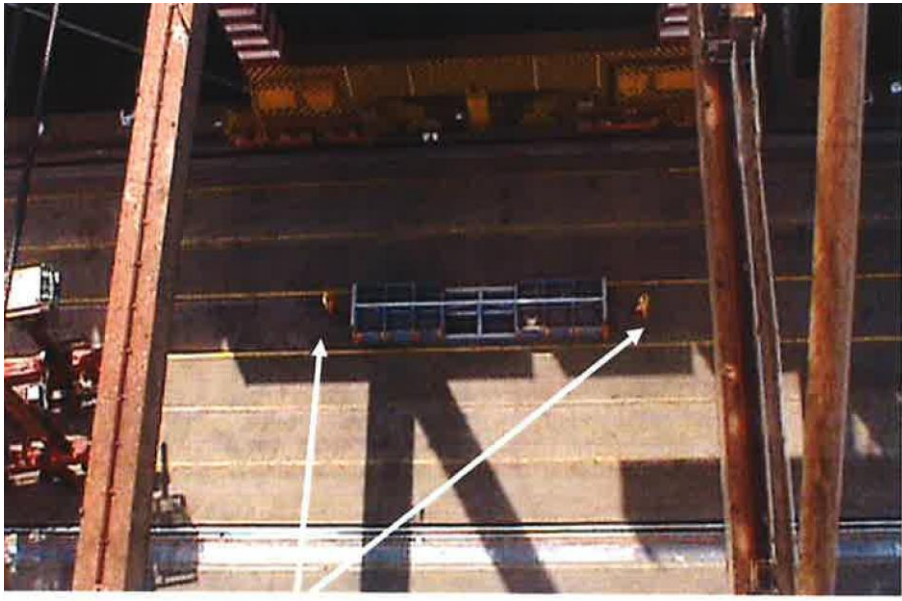


Figure 1 - Crane driver's view of padders.

The safety of our employees is paramount. We recognise pinning underneath the crane is not unsafe as we have multiple safe systems of work to ensure anyone carrying out this activity remains safe. However, we took the opportunity to review how we could make it even safer. The challenge was to remove personnel away from this risk area and at the same time maintain the efficiency of the port to add/remove twistlocks to the required containers without prolonging the vessel stay or the number of personnel required to carry out the task.

the innovation

For SCT 5, a separate padding area has been constructed on the Port to enable this function to be carried out away from the quay cranes. Containers are delivered to the area directly after quay crane discharge and thereafter moved to the stack for general storage or vice versa.



Each padder has a tablet advising the container numbers of the units in each bay and confirms if pads are to be added or removed. Jobs are flagged on the tablet once completed, which sends a message to an available straddle to arrange the collection of the container.

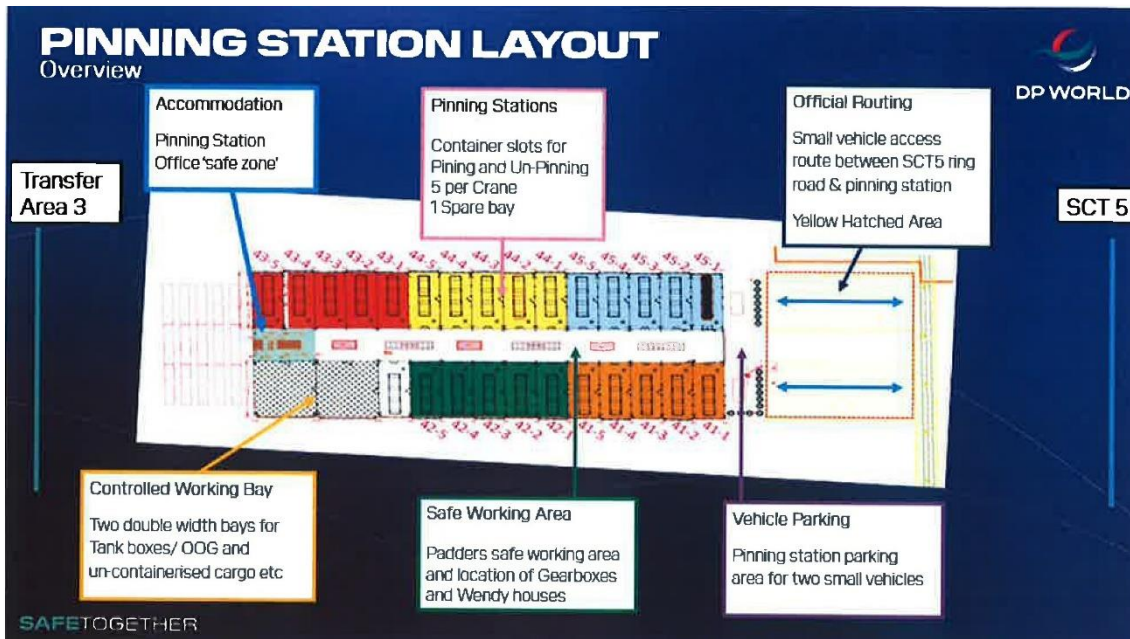


Figure 2 - Single barriered container bay

how it was implemented

The padding area has 25 container slots, whilst containers are being delivered padders can work other slots preventing a delay in the work being carried out.

Every individual crane on SCT 5 has 5 stations which are colour co-ordinated accordingly. Each station is operated by padders, who operate the pedestrian & straddle barriers on both ends via a button.



Each pinning station bay has two barrier control units, with each unit containing two buttons, one raising the straddle barrier and one lowering the SC Barrier. (One for each padder if two padders are working one bay). Padders are to operate the buttons to create a safe working environment. When a padder needs to access the pinning station bay, they are to press the button to lower the straddle barrier. Once the straddle barrier is down, the pedestrian gate will open, permitting their entry. After a padder has serviced a pinning station bay, they are to leave the bay and press the button to open the straddle barrier and in turn close the pedestrian gate. Only when the pedestrian gate is closed will the Straddle barrier raise. Buttons are to only be pressed when all padders are clear of each pinning bay.

When straddles are required to pick up/drop off these gear boxes into the safe area, the coordinator makes sure all pedestrians are in the "safe zone" located next to the office before allowing access through the main gate

Total investment in this project was £4,500,000





result

After trials the area became fully operational from July 2023, all pinning activities for berth 5 are taking place in this area and padders are no longer located under the quay cranes

conclusion

Separate pinning stations will be developed in the future for berths 1-4.

BARRIER AND GATE



Barrier Buttons: located on both sides of the gate
Buttons operate the padders gate not the Barrier
Gates wont close until both buttons are pressed on either side of the gates
Green button confirms the container is ready to be collected

LINK: <https://www.dpworld.com/southampton>