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| **Topic entry (tick boxes that are applicable) 1  2  3  4  5  6  7**  **8** | |
| **Entry number (MPA Ref)** | 22055 |
| **Title of Entry** | Safer Access and Egress into Primary and Secondary Washing Screens |
| **Name of Company** | Aggregate Industries |
| **Location** | Newbold Quarry |
| **Video**  **(if yes, please include URL for video)** | Yes |
| **Other resource**  **(if yes, please include description)** | 2 images |
| **Fatal Theme (tick boxes that are applicable) 1**  **2  3**  **4**  **5**  **6** | |
| **BACKGROUND** | |
| Newbold Quarry is the largest sand & gravel quarry in Aggregate Industries and is a key source of materials in the supply chain strategy across the Midlands region of the UK.  The material is excavated from the ground and then conveyed from the quarry face to a surge pile near the process plant. From this surge pile the sand and gravel is washed and separated into its saleable products as it passes through our process plant.  The two primary double deck vibrating washing screens are processing 500tph each screen and are fitted with water spray bars which wash the material through polyurethane modules - 300mm wide by 1000mm in length. The modules are fitted to the metal rails on the screen which are approximately 260-270mm apart from each other.  Entering the screen (in-between the rails) for maintenance purposes is very difficult and most importantly requires a person that can fit through that narrow gap. The restricted access and egress to the screen is also considered medium to high risk as there will be a delay in rescuing in case of an emergency.  As planned preventative maintenance and inspections through the modules of these screens are conducted daily, we have contacted the screen supplier who have designed and manufactured 600mm by 1000mm modules that can be installed on the top and bottom deck by removing 2 non-structurally significant rails from the screen deck. By doing this, access and egress will be less restricted and the process much quicker and could mean the difference between life and death in case of an emergency. | |
| **MANAGEMENT OF PROCESS** | |
| Our site holds daily production and maintenance meetings that build and improve collaboration between managers/supervisors and general operatives and gives the opportunity to increase the knowledge transfer between our teams.  During the meeting, the maintenance team expressed a concern regarding the safe access and egress of the primary and secondary processing screens. The main concern was that the access and egress into the screen was restricted and in an emergency scenario, the time and effort required for the individual working in the screen to escape would be critical. Following this, the site manager and the maintenance supervisor attended the equipment whilst a routine inspection was underway and discussed the options with the team.  Once access has been gained into the screen, various tasks can be carried out, each bringing various degrees of risk. Below is a list of maintenance work conducted inside the Screens:  - Cleaning & inspection of modules (screen matts) & rails - Replacement of modules & rails - Replacement of beams that rails bolt to  Some of these tasks involve hot work activities which increases the risk, and it is very important to have an efficient and effective emergency plan and a safe and uninterrupted egress of the equipment.  For this reason, the team suggested that we could engineer an access door made out of modules (screen matts) for the upper and lower screen decks for safe entry and exit.  After it was agreed and confirmed as the most viable solution, the maintenance supervisor liaised with the manufacturer of the screen to see if it was structurally possible to design and build this concept.  Furthermore, all the maintenance team had a refresher course in confined space training and when the new system was installed the team carried out several emergency drills to prove that the new controls were effective in an emergency situation.  New access and egress points have now been communicated with the team here at Newbold and the RAMS and SSOW have also been updated to demonstrate the change.  Lastly, this idea has also been discussed during Aggregates weekly health and safety calls with all the site and area managers of Aggregate Industries in the Midlands. | |
| **BENEFITS** | |
| Any individual working on the processing screens (including both employees and contractors) requires safe access into the two screens and safe and unobstructed egress.  Apart from the safer accessing benefits of this change, by making the entry point wider, the employees and contractors can fit easier and work more comfortably in the screen whilst wearing a rescue harness. Furthermore, manual handling activities will be also minimised as the crane can be used to lower heavy and bulky items into the screen that can fit through the gap. (Previously items had to be squeezed through the narrow opening with the individuals performing repetitive manual handling activities to fit the equipment through the rails.)  A behavioural change has also been noticed. Previously, the individuals working in the screen were tempted to take their harness off and put it back on whilst they were in the screen (due to the uncomfortable and tight squeeze when wearing it) which is not a recommended behaviour.  Both screens are now fitted with wider access modules which makes any type of work inside the screen lower risk.  Furthermore, from a performance point of view, the preparation stage of the task is less complex and time consuming which improves the levels of productivity. | |
| **INNOVATION** | |
| We believe this is a new approach in the industry as all the new screens that we have observed are delivered with narrow fitting rails like our old one.  This new method of access and egress is an improvement because once entered in the screen the tasks carried out are the same.  This is new for the site and represents a good example of continuous improvement and an idea that was initially generated by the guys at the shop floor which was communicated, taken to the management team and now implemented for everyone’s benefit.  The two screens in question were commissioned in 2007. | |
| **DEVELOPMENT & TRANSFERABILITY** | |
| The site manager will liaise with the company’s procurement department; it is our belief having witnessed the advantages of this idea that all double deck screens purchased must be fitted with this system as standard.  Lastly, we are due to submit the benefits of this engineering solution to our internal communications team who share the weekly newsletter as part of the “Bring Your Best” column, so that more sites with similar equipment and issues can improve their processes. | |
| **NB if document has embedded images try and include these**  **If other documents provided say additional information available.** | |