BEST PRACTICE

LOCATION:	**Quarry**	**ARTICLE YEAR**	**2018**
ACTIVITY:	**Maintenance & Housekeeping**	**COMPANY:**	**Singleton Birch**
SUB ACTIVITY:	**N/A**	**COMPANY LOCATION:**	**Melton Ross Quarries**
BEST PRACTICE No:	**BP2022**	**COMPANY TEL:**	**0000**
COUNTRY OF ORIGIN:			

TITLE

Maerz Kilns wet gas scrubber improvements

ARTICLE

DESCRIPTION

Singleton Birch Limited operates four, natural gas fired, 300t/d twin shaft Maerz kilns at its Melton Ross production site which are being upgraded. The project includes an overhaul of the recirculation settlement tanks, pumps and pipe network. Dirty water from each scrubber flows by gravity to one of four 85m3, steel, settlement tanks before being returned to the scrubber via four individual submersible pumps.

The existing system, which was 30 years old, would not meet new standards and exposed operators to a range of hazards when essential maintenance tasks were undertaken.

The existing system, which was 30 years old, would not meet new standards and exposed operators to a range of hazards when essential maintenance tasks were undertaken.

The settlement tanks progressively silt up with sediment. Each tank is emptied once a month, and resultant slurry is transported to a lagoon to dewater. Cleaning the tanks included the movement of submersible pumps, a very manually intensive operation that required the use of lifting equipment and scaffolding for access. Operators were also exposed to the risk of being scalded with hot water when moving a return pipe between the settlement tanks. There was limited space between tanks, issues with poor access and egress, uneven ground and moving around steelwork.

With health and safety at the forefront of the project, key personnel were involved at each stage of the design including operators, contractors and safety reps. Key elements of the project included;

1. Replacing the steel resettlement tanks with concrete tanks
2. Centrifugal and positive displacement pumps, housed in a separate compound for ease of maintenance
3. Installation of feed and return pipework including an access gantry for operators when systems are maintained
4. Installing all valves and similar equipment where they can be easily accessed from walkways and/or compounds away from potential hazards

BENEFITS

- Significantly reduced risks of injury
- Project involved input from all key stakeholders
- Plant complies with new standards and legislation
- Effective use of design to reduce risk
- Operation and maintenance of the system safer
- More efficient operation
- Reduced environmental impact
- New EA limit 20mg/m3 – new system achieves 8mg/m3
- A safer working environment for all.

ARTICLE IMAGES

Click image to enlarge



Click image to enlarge

