

# SAFETY TALK



## THE PRACTICAL SAFE DESIGN APPROACH

- 01 JIMMY KARIMBUX**  
‘Safe Design is really not always rocket science. Simple improvements are sometimes enough.’
- 02 DROP-DOWN PLATFORM**  
One of the numerous safety features designed as part of Safe Design.



Falling overboard, banging your head, falling off a ladder, injuries caused by lifting heavy loads: accidents on board can be prevented by introducing technical improvements. That is why Boskalis launched a review in 2010 of the minimum technical requirements for all dredging vessels (including non-self-propelled equipment) in the central dredging fleet. Under the collective EQP 501 umbrella, staff from SHE-Q and Fleet Management (FM) drafted safety regulations as a part of the Q-AID management system. ‘The first EQP 501 standards (the abbreviation stands for Equipment Procedure) covered areas that included the safe use of crane hooks and cranes, and requirements for staircases, ladders, scaffolding, gangways and man baskets,’ says Fleet Manager Arjan Schrijen. ‘They also set out how markings should be applied to walkways, hatches on manholes and dangerous places on board.’ Over the course of time, new EQP 501 standards have been produced. There are now twelve standards, and more are being drafted.

### ALL DREDGING VESSELS EQP 501-PROOF

The Boskalis dredging fleet is so large and varied that a special working group was asked to develop a plan for the Boskalis-wide implementation of the EQP 501 regulations. It was decided to analyze potential improve-

ments on board all ships and to make agreements about the scheduling and approach for the required changes. ‘The goal was to make all the vessels involved EQP 501-proof within three years. The Fleet Teams already had a considerable workload and so it was decided to establish a special Safe Design discipline. It is conducting a review of the fleet, but also devising practical solutions and developing tailored technical designs,’ says Fleet Manager Frans Oosterwijk. Safe Design was initially the responsibility of the Fleet Development department but it has now been transferred to the SHE-Q FM department, which was established last year and is led by Jurriaan Guljé.

### COORDINATION

SHE-Q FM project engineer Jimmy Karimbux plays a central role, in his capacity as the Safe Design coordinator, in the introduction of the EQP 501 standards. ‘Immediately after I joined Boskalis as a project engineer in 2011, I was asked to tackle this job,’ he recalls. In recent years, he has been a roving troubleshooter, reviewing the vessels involved using checklists, proposing numerous changes and, in addition to all that, designing a large number of technical improvements to make situations safer. ‘Ship’s crews can often make minor improvements themselves straightaway. Designs for larger changes are

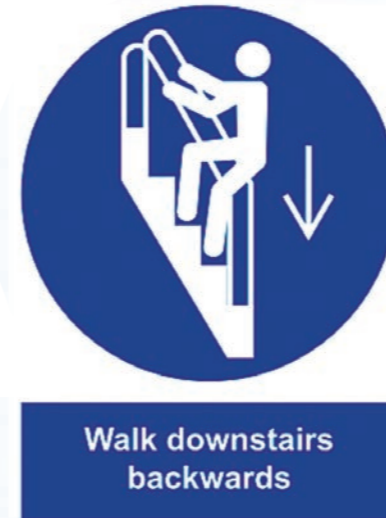
analyzed by the Fleet Managers and then implemented by the Fleet Maintenance Engineers. They are made when ships enter docks for maintenance. Almost all the designs can be used on every vessel; the sizes are often the only thing that needs changing.’

### APPRECIATION

‘The benefit of this approach is that I can help the fleet crews to make improvements to their own safety. I devise an approach on location and I can design and make the calculations for the required changes myself. That is certainly something that people appreciate,’ says Jimmy. The focus in Safe Design is always on functional solutions that can be implemented at a reasonable cost.

For example, Jimmy designed a safer cage ladder for crew members who have to climb high masts, for example to replace lights. Continuing that work, he is now working on the introduction of a guide-rail structure that allows people to move around more and reduces the risk of falls. Safe transfers from one vessel to another are also an important area. A range of gangways are being developed. Jimmy is now designing a transfer system for tugs that can be moved through a range of angles while the treads move accordingly. ‘Research & Development is an important part of my work,’ he explains.

Fleet Management has a two-pronged approach to safety on board. First, safer working methods are being developed for high-risk situations on specific vessels. Second, the ‘Safe Design’ initiative was launched with the goal of introducing a uniform safety level ground in the EQP-501 standards to the central dredging fleet (excluding the barges) within three years. So it is high time for an introduction to ‘Safe Design’.



‘For example, there have been a range of changes to lifting beams on the ships and a safeline system that makes it possible to walk over the suction pipe on board trailing suction hopper dredgers. Another example is the davit for rescuing people in distress in enclosed areas.’

### NOT ROCKET SCIENCE

A lot of time and energy is also invested in safety features for crane hooks and ship’s cranes. ‘To lift kit on board safely, the safe working load of a crane or a hook needs to be clearly stated everywhere,’ says Jimmy. ‘Another recurring Safe Design activity is installing heavier crane hooks on the vessels.’

Elsewhere, railings have been made safer by installing an additional safety feature at knee height. ‘So Safe Design is certainly not all rocket science,’ points out Jimmy. ‘In many cases, making stairs and ladders safer was a simple question of applying yellow/black anti-slip marking strips on the treads.’ In other cases, changes were made to the distances between the treads. ‘There isn’t always enough room to do that, so we developed a warning sign to tell people to go down backwards,’ says Jimmy. Yellow/black markings were also applied using specially-developed waterproof stickers in other potentially dangerous locations to prevent slipping or head injuries. ‘That looks neat and tidy, and it is more straightforward than putting the crew to work with yellow and black paint,’ says Jimmy. ‘Given all the positive responses, the colleagues on the fleet really appreciate these simple improvements.’

### ONGOING PROCESS

The central dredging fleet is now almost 100% EQP 501-proof. ‘Thanks to the commitment of the crews, most vessels now comply with all the regulations. A few outstanding actions will be dealt with during maintenance in the near future,’ says Jimmy. New EQP 501 standards are already being worked on. For example, alongside the davit and guide rail mentioned here, there will be regulations for mooring



(including snap zones) and safety features for machines on board, such as lathes and electric drills. ‘Safety improvements are an ongoing process. On the basis of accidents, near misses and tips from crew members, we are always working on new ideas. The fleet’s contributions are indispensable for the Safe Design process,’ concludes Jimmy.

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## LELYDORP 1 PROJECT: 2 MILLION MAN-HOURS WITHOUT A LOST-TIME INJURY

**Area West is working on the large-scale mining of bauxite in Lelydorp, Suriname. A milestone was reached this summer: two million tons have now been extracted. That achievement looks even better when you know that two million man-hours have now been worked without a single lost time injury (LTI).**

& Mining. So there was a celebration with all the project staff attending, and they were given a special T-shirt as a memento. ‘This is something to be proud of, which we were only able to achieve thanks to the positive commitment of all staff,’ said project leader Arie van den Adel. ‘We do everything to work as safely as possible.’

Area West is executing the project in collaboration with Boskalis Nederland Earthmoving

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**03 FESTIVE CEREMONY**  
During a celebratory meeting, Arie van den Adel thanked everybody for their commitment. A representative from the client, Suralco, handed out a certificate to Jaap Scheele, business unit manager Area West.