

# safetyfocus

The Confidential Hazardous Incident Reporting Programme – CHIRP – is an independent system for all those involved in the maritime industry to report incidents of concern. CHIRP's Maritime Advisory Board has joined forces with Safety at Sea to provide regular insights into topical safety issues.

**CHIRP**  
www.chirp.co.uk

## A step away from the 'snap-back zone'

### CHIRP Maritime Advisory Board

► The term 'snap-back zone' has been enthusiastically embraced for describing an area where a parting mooring rope could cause whiplash. Experienced seamen immediately recognised the expression as a good way to alert teams – and especially younger seaman coming into the industry – to this great risk.

Mooring ships is arguably the most dangerous procedure seafarers perform. This is a catchy phrase that captures why.

Yet those of us who warmly welcomed this risk concept now have cause for reflection. Snap-back zone injuries continue. We may embrace modern mooring rope construction, design of systems, addition of tails, and every promising approach to finding technical solutions. Experience tells us, however, that mooring ropes will always part and the danger will never be eradicated.

So, is the snap-back zone concept working? The question relates to our belief from the outset that highlighting these dangerous areas by whatever means – painting lines, cordoning off areas, a full 'song and dance' act – may well have been worthy but misguided.

### Warning jumble

Those of us who went down the route of painting lines well know the permutations of leads from any winch drum for either side of the vessel, the crossovers of each, and the complexity of different port requirements. Painted lines rapidly come to resemble a jumbled 'Christmas tree' of warning areas.

Highlighting hazards with paint clearly has its place, for example pointing out tripping hazards or snagging equipment projections, which can be especially hard to see at night where even good deck lighting cannot fully overcome the human eye's depth-of-field limitations.

For snap back zones, however, highlighting danger areas has encouraged a dangerous overconfidence that other areas are safe.



Clearly *any* location within the mooring area *must* be treated as in danger of a mooring rope snap-back. If line marking is to be of any benefit at all, it would be a single line on the deck marking entry to a mooring area in its totality. This would be both simple and effective. If you are standing or working within the mooring area, *any* mooring line failure can kill you!

### Ever-present danger

So how do we go forward from this? We must presume the danger to seamen of a mooring line failing under tension will always exist and we must accept that a tensioned line is always at risk of parting. As the danger will never go away, the principal focus must be on where the person is standing when the inevitable occurs. We continue to hope that engineering, design, and the progress of the lessons learned will, in time, reduce the number of failures. Yet we must

psychologically accept that very few positions within a mooring area are comparatively safe.

Let us make a few key assumptions on which there may be general agreement:

- Any mooring tensioning requires adequate manning, with operators competent to execute the work. This is a challenge in itself, especially in windy or tidal conditions, when ropes can tension rapidly. A bottom-to-top review, from seamen to shipowners and flag state authorities, should examine risk assessment. Minimum manning is often appropriate only on a good day.
- Winch operators are generally in the safest position, provided they focus on that job alone and do not stray from their position during the tensioning operation. In recent years, design has brought some improvements, often taking winch controls out of line with a mooring rope, although creating vision restrictions from machinery. Lower whiplash risk is clearly desirable, although

the person in charge must have a clear vision of the winch operator.

- The future design of mooring stations must proactively aim to reduce the crew's exposure to risk.
- Effective briefings through interactive toolbox talks should be conducted with the mooring party to ensure all know the intent and plan for that specific mooring operation.
- It is essential that there are proper agreed communications among the officer, or person in charge, the winch operator, and any intermediate relay signaller (this level of manning is a necessity) by clearly visible hand signals or radio communications.
- The officer, or person in charge, must at all times be in a position with a line of sight to the mooring running ashore, the ship's leads, and the mooring winch operator to ensure that signal relay will be maintained. Tensioning needs constant observation and control. It can be a killer to be distracted and become 'hands on'. Maintaining a constant overview is essential, as is staying as far as possible from the line.

### Innovative thinking

But moving forward on this subject also requires new ideas. From the perspective of safety culture we need to encourage an innovative approach. We move forward only through new ideas, building on proven skills and experience. Namely:

- An assumption that within the single highlighted mooring area warning line *all* areas are unsafe during tensioning and become the snap-back zone.

- Any location close to any lead – ship's side or roller pedestal variety – poses the greatest threat due to complex snap-back arcs, snaking, or fouling. These areas are *lethal*.
- An appreciation that the officer, or person in charge, is often at the greatest risk. The location for the best overview is often the area most exposed to the danger. We have all preferred to stand by the lead so we can best observe the mooring line inch in and out to monitor tensioning effectiveness. *This is the very worst place to be.*

So, to encourage discussion, let us consider a single highlighted spot where the person in charge will stand for each tensioning permutation in a comparatively safe location.

There are certainly fewer of these than dangerous snap-back zones.

Prior to any tensioning operation being conducted, the location must be carefully considered for snap-back safety and marked accordingly. Allow for back springs here, breast lines there, and head/stern lines. Either side of the ship... half a dozen highlighted 'tensioning spots' at most.

Habitual and repetitive placing regimes significantly reduce exposure to variables. We should apply a better control of a uniform standard as best we can.

These tensioning spots need to be as remote from the mooring lines as reasonably possible while ensuring the person in charge can maintain visibility and control of the operation. As regards the after mooring station, the master, from the bridge wing, can communicate with the mate aft. He/she can signal down to the aft main deck spring

winch operator and leave the mate to attend the poop. For the forward mooring station, the manifold or amidships location may well be a good option – far from the winch operator and moorings but closer to the bollard or hook ashore, or fenders alongside, for the back springs.

Most important of all, we need to be assured of effective signalling/communications to the forward mooring station. *Note, these locations are only needed for the tensioning part of the operation as this is where the greatest risk of snap-back exists!*

### In summary

We need to move away from the large number of snap-back zones and the implied safety that allegedly exists outside the highlighted danger area. We need to move towards carefully considered mooring tension spots. These are the fewer, well-judged, and firmly rooted locations where the risk is mitigated, controlled. Only then can we be consistently assured of a comparative lessening of exposure to snap-back. Snap-back will never go away but we may then have a better system in place to manage its effect when a rope does fail.

Can 'tension spots' replace 'snap-back zones'? The concept is believed to be a step away from the snap-back danger and towards safer mooring tensioning locations. The challenge for you is to get your thinking caps on to pick the best places for tension spots. ◀

✉ mail@chirp.co.uk  
Published online 21/9/2015

### Contact

It is generally accepted that for every accident there are numerous near misses. Using a centralised and respected scheme such as CHIRP ([www.chirp.co.uk](http://www.chirp.co.uk)), observations can be sent to [reports@chirp.co.uk](mailto:reports@chirp.co.uk). These confidential reports are released to a wider audience, with anonymity retained throughout. Through this process, seafarers can initiate change and improve safety standards and design.